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RUBBER AT THE PARIS EXPOSITION.

THE rubber trade in America should feel gratified at the interest manifested by the United States commission for the Paris Exposition of 1900 to secure for it a representation which shall be of the highest possible efficiency. It should not be overlooked that the forthcoming exposition is to be organized on a somewhat different basis from any past undertaking, in that preference is to be given to quality rather than quantity. No encouragement is given to manufacturers to take space and fill it with whatever pleases their fancy; the controlling idea, on the other hand, is to limit the exhibits to what is newest or best in the products of any industry or any country. No respect will be given to mere bigness. The central administration at Paris, and, similarly, the commissions appointed in each of the countries which are to participate, will reserve the right to exclude proposed exhibits which are not of a character to aid in representing the highest degree of advancement which has been reached in the various branches of industry and the arts. Hence the desirability of some sort of concerted action among those rubber concerns in America who propose to be represented in Paris, apart from the fact that the area at the disposal of the Paris Exposition of 1900 will be much smaller than Jackson Park, in which the Chicago world's fair was held six years ago, while the demands for space will be greater than at Chicago.

Manifestly even a small amount of space would not be available at Paris for each of the more important manufacturing concerns, for which reason the United States commission have proposed a scheme by which each of the leading industries may be represented by a collective exhibit, gotten up with a view to showing the best that can be done in its own particular branch, while not obscuring the individuality of the exhibitors contributing to it. First of all it is desirable that our rubber manufacturers, for instance, should impress upon the world of sight-seers at Paris next year what a great variety of useful applications of India-rubber is produced here, together with the high degree of excellence that has been attained, and the comparatively low cost of our products. This would be done side by side with the best efforts of the rubber trade in each of the principal competing countries, and if it should be shown that the United States is in the lead, in this respect, there would be "glory enough in it for all of us"—as somebody said after a certain victory was won at Santiago.

Having established such a reputation, the value as an advertisement to any given manufacturer from having participated in the general exhibit would be greater than any possible results which the same manufacturer could hope to attain through an individual exhibit. Every visitor to the World's Columbian Exhibition who was interested in furniture was impressed with the comprehensive and artistic collective exhibit made by the French furniture trade. All hands joined in making a reputation for French production in this line, after which all shared in the glory which resulted from this achievement. But the American

rubber manufacturers, going into the exhibition as competitors, sought to keep away from each other, even to the extent of exhibiting in different buildings, with the result that it was difficult for a stranger to find all of them, if he desired to make a study of their products, and no such general impression was afforded of the importance of the rubber industry in America as it merited. It is to be hoped that no such mistake will be made—or attempted—at Paris.

There is one very special reason why our rubber manufacturers should work together in 1900, first to make a reputation abroad for AMERICAN RUBBER GOODS, rather than for the products of individual factories. Every one of them wants a wider foreign trade, and, on the basis of comparative quality and prices, they are entitled to it. But the rest of the world yet needs to learn what our rubber factories are capable of doing, and it is only by means of such an opportunity as a great European exposition affords that the world at large can be impressed with the facts. It must be considered that, great as was our Chicago fair, its attendance was made up chiefly of Americans, who naturally would buy rubber goods of home manufacture. But the Paris Exposition, with an attendance which will be as great, or greater, will be composed mostly of people who are not Americans, and who now know little and care little about our rubber goods. Nor will the attendance be composed of Frenchmen to the same extent that American visitors predominated at Chicago. Paris long has attracted visitors from every part of the world, and it is safe to say that in no other city to-day could a world's fair draw together so many sight-seers from so many countries.

We may build warships for Russia and steel bridges for Egypt and locomotives for England, and ship rails to India and China and Japan, because each order in one of these lines represents a small fortune in itself, and affords a margin of profit which permits of the payment of handsome commissions on the sales. But the individual buyer of rubber goods takes a small quantity, and the buyers are too widely scattered to justify manufacturers in sending salesmen around the earth to supply them—until, at least, some such means as that to be afforded at Paris serves to start a wider demand for our goods, when dealers everywhere will be forced to keep them in stock. The attention of our rubber men is called to a suggestion, on another page, from the Paris Exposition commission, who invite correspondence on the subject of a collective exhibit.

THE USE OF OILS IN RUBBER WORK.

IN a recent issue of our esteemed London contemporary appeared an article referring to one that had been published in THE INDIA RUBBER WORLD, relative to the use of substitutes in rubber manufacture. Our English contemporary very courteously hints that Americans are far behind in the use of substitutes, and further that the English are getting away from such use by incorporating oils in their compounds—that is, unsulphurized oils. With

regard to the first contention, it would be foolish for an American to contradict it. There is no question that foreign rubber manufacturers have gone further in the manufacture of rubber substitutes than have the Americans, and are possessed of interesting and valuable formulas that their chemists and superintendents have brought out, which show a wonderful amount of research and practical experiment.

It would hardly be fair to American manufacturers, however, to say that had it been necessary they could not have gone as far. Indeed, that their equipment was just as valuable for such work is proved by the successes that they have attained in producing the high grades of reclaimed rubber, that to-day so wonderfully supplement crude gum in almost all lines of rubber manufacture. It is a question if foreign manufacturers would not have turned their attention to reclaimed rubber through preference, if their shoe waste had been equally capable of recovery. The presence of Gutta-percha in many of their shoe compounds in the past, however, handicapped them in this line. Within the past two years Gutta-percha has become so valuable and necessary for other purposes, that it seems to have been entirely left out of shoe compounds, and one consequence is that reclaiming plants in England and on the continent are being rapidly installed.

Regarding the use of oils in rubber compounding, we would not have our friendly critic imagine for a moment that our manufacturers are ignorant of their use. A cursory examination of compounds in mechanical lines, in mold work, druggists' sundries, clothing, and hard rubber shows very large uses of linseed oil, raw, boiled, and blown; of cottonseed oil, tar oils, petroleum oils, and a great variety of greases, such as palm oil, cocoa butter, degreas, etc. The rubber substitute as it is used has a constantly increasing field of usefulness which cannot be filled by an oil or grease, and at the same time the use of oils is increasing, in specific cases, where the substitute will not avail.

RUBBER MANUFACTURERS OFTEN COMPLAIN that shrewd purchasers of their goods insist on lower prices the moment that crude rubber declines a little, and that they often feel very much hurt because a reduction is not instantly made. Such claims, of course, are based on an absolute lack of knowledge as to the methods pursued by large manufacturers of rubber goods in their purchases of crude materials. For example, a concern that is a large user of coarse Pará rubber may not appear as a purchaser in the market more than half a dozen times a year. Sometimes the purchase will be at the highest price quoted for the year, and other times at the lowest, but whatever that price may be, the goods in which it goes will be sold on the average valuation of crude rubber, and so with all other grades of rubber that are quoted in the market reports. If purchasing agents and jobbers would bear this in mind, and appreciate that they are bound always to be ignorant about what gums appear in their goods, they will see that the current market quotations on crude rubber cannot give them any clue at all at the prices that should be fixed on the finished material. The prime use of rubber market reports is to afford to manufacturers a guide in buying.

ANNUAL MEETING OF THE UNITED STATES RUBBER CO.

THE seventh annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock, M., on May 16, at the company's office at New Brunswick, N. J. The following reports by officials of the company were presented:

PRESIDENT'S REPORT.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: Reviewing the general business and condition of the company, in conformity with the by-laws, the president reports as follows:

The operations for the year have been the most important of any since the organization of the company, and from them the company found itself in the responsible position of providing a large part of the rubber boots and shoes required in this country. The directors and officers immediately resolved to make their plans and prices so fair and liberal that there should be no reasonable cause for complaint, and that all goods should give good value to the purchaser. As a result, the relations between the company in its manufacturing departments and with its customers have been most harmonious and friendly.

The company has secured from some of the claims referred to in the last annual report as being in process of settlement, securities at market value, amounting to \$384,408.19, which will be included in the statement when all the matters are fully adjusted.

The physical condition of the factory properties has been kept good and the cost charged in expense accounts.

The treasurer's report, showing the financial condition of the company March 31, 1899, and the operations for the fiscal year, is appended. Respectfully submitted,

FREDERICK M. SHEPARD,
New Brunswick, N. J., May 16, 1899. President.

TREASURER'S REPORT.

THE following balance sheet shows the condition of the company, March 31, 1899, together with comparison of same with previous year:

ASSETS.			
	March 31, 1899.	March 31, 1898.	
Cash.....	\$ 557,666 79	\$ 494,887 86	
Notes and accounts receivable.....	1,799,155 88	724,179 72	
Merchandise on hand.....	1,617,609 85	1,743,380 63	
Investments.....	46,910,508 78	38,259,322 17	
[Total].....	\$50,884,941 30	\$41,221,770 38	
LIABILITIES.			
Preferred stock.....	\$23,525,500 00	\$19,400,500 00	
Common stock.....	23,666,000 00	20,166,000 00	
Accounts payable.....	1,711,263 50	569,285 08	
Due companies for goods sold.....	217,634 84	589,061 71	
[Total].....	\$49,120,398 34	\$40,724,846 79	
Balance.....	1,764,542 96	496,923 59	
Reserved for dividends in April and July.....	941,020 00	388,010 00	
Surplus.....	\$823,522 96	\$108,913 59	
OPERATIONS OF THE UNITED STATES RUBBER CO., FOR THE YEAR ENDING MARCH 31, 1899.			
Surplus March 31, 1898.....		\$108,913 59	
Profits from operating plants and dividends on investments.....	\$2,519,231 32		
Net income from commissions, on sales of goods.....	897,149 65		
[Total income].....	\$3,416,380 97		

Less total expenses.....	189,867 51	
		\$3,226,513 46
		\$3,335,427 05
Less dividends on preferred stock:		
Paid October 31, 1898.....	\$470,510 00	
Paid January 30, 1899.....	470,510 00	
To be paid April, 1899.....	470,510 00	
To be paid July, 1899.....	470,510 00	
		\$1,882,040 00
		\$1,453,387 05
Charged for depreciation and losses.....		629,864 09
Surplus.....		\$823,522 96
	CHAS. R. FLINT,	Treasurer.

The manufacturing companies in which this company has investments earned net for the year, in excess of dividends paid..... \$438,871 39

The undivided earnings in the treasuries of such companies are now..... \$2 488,364 96

[The Treasurer's report is certified to by Bragg & Marin, public accountants, after an examination of the books and accounts of the company.]

THE ANNUAL ELECTION.

AN amendment to the by-laws was adopted, authorizing an increase in the number of directors from fifteen to nineteen, 344 532 shares being voted in favor of the change. In the election which followed, however, only seventeen directors were chosen. The list follows, the figures in parenthesis indicating the number of terms for which each director has been elected to date:

1. SAMUEL P. COLT, Providence R. I. (8)
2. ELISHA S. CONVERSE, Boston, Mass. (2)
3. HENRY E. CONVERSE, Boston, Mass. (2)
4. CHARLES R. FLINT, New York city. (8)
5. JAMES B. FORD, New York city. (8)
6. J. HOWARD FORD, New York city. (8)
7. ROBERT M. GALLAWAY, New York city. (8)
8. HENRY L. HOTCHKISS, New Haven, Conn. (8)
9. CHARLES L. JOHNSON, New Haven, Conn. (8)
10. LESTER LELAND, Boston, Mass. (1)
11. MAHLON C. MARTIN, New Brunswick, N. J. (8)
12. FREDRICK C. SAYLES, Providence, R. I. (1)
13. FREDERICK M. SHEPARD, East Orange, N. J. (8)
14. CHARLES STEWART SMITH, New York city. (4)
15. JOHN D. VERMEULE, New York city. (3)
16. GEORGE E. WEED, New York city. (3)
17. SAMUEL N. WILLIAMS, Williamsport, Pa. (8)

Of the two new directors, Lester Leland is treasurer of the Boston Rubber Shoe Co., and Fredrick C. Sayles a director in the Woonsocket Rubber Co. Apart from the addition of these names, the board differs from that elected on May 17, 1898, in the disappearance of the names of Charles H. Dalton, who failed to qualify, and George A. Lewis, who resigned during the year. These vacancies were filled several months ago by the Messrs. Converse, who have now been reelected.

At a meeting of the directors on May 26, the officers were reelected, viz.: Frederick M. Shepard, president; James B. Ford, vice president; Charles R. Flint, treasurer; Samuel P. Colt, secretary; H. M. Sadler, Jr., assistant treasurer. The executive committee consists of the four officers first named, Henry L. Hotchkiss, M. C. Martin, J. D. Vermeule, Charles L. Johnson, and Lester Leland.

SPECIALIZATION IN THE RUBBER INDUSTRY.

THE leading rubber factories abroad, instead of confining their efforts to particular branches of production, appear rather to try each to supply everything that can be made of rubber. They do not issue general catalogues, as is customary in this country, but a single house will send out a dozen, or even two dozen, trade publications, describing nearly as many classes of goods. A case in point is that of a long established factory which makes 20-inch suction hose, "truck loads" of baby pacifiers, hard rubber automatic pumps, wringer rolls, bicycle tires, fine cut sheet rubber, tennis shoes, erasers, billiard cushions, and whatever else they may receive orders for. There is no reason to assert that this course has not been found profitable; on the contrary, ten rubber concerns in Germany, most of which produce a wide variety of goods, last year distributed dividends averaging 25 per cent. But these factories—like others of their class in Europe—have not the active competition of concerns each devoted to some special line.

In America the rubber shoe industry, from the beginning has been in the control of manufacturers content to make nothing else; the production of erasers and cut sheet has not been attempted by the manufacturers of belting and hose; even the tire trade, which at first seemed particularly allied to the mechanical goods line, has been conducted more satisfactorily by concerns making tires alone. The advantages from this specialization of the rubber industry have been marked. It was made possible, at an early stage of the industry, by the large buying population of the United States and the great demand here for rubber goods, so that even if a company employed a capital of several hundred thousand dollars, it could supply only a small part of the wants of the trade in any given line.

The effect of such specialization has been to keep the same workers employed steadily year after year, making not merely the same goods, but the same pieces, working at the same machines or processes, with the result of attaining a rate of efficiency hardly possible had they been changed frequently from one thing to another. Beyond doubt, the cost of production of rubber goods in America is much lower on account of the concentration of the manufacture of footwear in certain factories, fire hose and allied goods in certain others, and so on, than if the same volume of output were so distributed as to give a share of each branch to every concern in the trade.

The mere fact that under the American practice goods in any branch are produced in larger volume in a single factory than is true elsewhere, tends toward economy in production, to say nothing of the increased efficiency of the employes, whether engaged on piecework or in the operation of machinery. The same advantages obtain in the manufacture of machinery, of tools, of textiles, in the printing industry, and so on throughout the list of industries. A single factory, as a rule, turns out, for instance, only machinery of a single class, or even of a single type, declining orders for any other. Whoever reads the American and English consular reports will find many complaints from other countries that enough attention is not paid to the particular wants of buyers, to which manufacturers respond that they cannot afford to depart from their established practice to meet transient, or comparatively unimportant demands.

In this connection the writer is reminded of a remark by a

successful rubber superintendent in whose factory great stress was laid upon figuring out cost of production with accuracy. Hence they used a great variety of compounds, in order that each product should cost less than the selling price. Said he:

"I believe it to be true, in many cases, that any saving made in changing from one compound to another, when we turn from the production of a high priced line of goods to a lower priced line, is more than offset by the extra labor involved, and disturbance of the working system."

In other words, if the factory had been run continuously on the same compound, for high and low grade goods alike, the profits might have been greater, on account of the better utilization of all the hand labor and mechanical equipment involved. Perhaps in another factory, however, the situation might have been different. But the case is paralleled in the loss of time in changing from the production of one line of goods to another.

In England, and here as well, there are textile mills that run constantly, spinning yarn of one size, or weaving cloth of one grade, and they cannot be met in competition by factories operated on a different basis. And so the manufacturer of rubber goods, who can produce continuously the same class of articles, enabling him to get his working force in a highly trained condition, each member expert in his own specialty, will undoubtedly have an advantage over competitors who try to make everything that may be called for, and who are uncertain to-day what they will turn out to-morrow. It does not follow that the rubber man who first starts on a particular line should never give it up for another. On the contrary, the unsatisfactory condition of some concerns may be due to their failure to keep up with the times in the way of innovations, to meet changes in the wants of the trade. Some important demands for rubber have been developed to a great extent without the aid of the older and larger houses in the trade. Thus the leading firms in the mechanical line are not making the principal volume of bicycle tires or carriage tires. But to the suggestion that some of the older companies might have enjoyed a wider measure of prosperity by taking up tires, the answer may be made of pointing to certain concerns that did take up tires extensively at one time, to their later extreme regret. And the story of their experience only bears out the contention of this article, that the rubber industry is better conducted by not having the work of a single factory too widely diversified.

The bearing of this subject upon existing trade conditions is that, when American rubber goods do happen to come more actively in competition with those of other countries, it is probable that a marked advantage will be found on the side of our products—the result of effort long concentrated upon a given branch of production, as against the smaller production per factory abroad, due to the fact that each attempts to make everything into which rubber enters.

NURSING-BOTTLES IN COURT.—At Buffalo, N. Y., a druggist has been tried and fined for selling a long-necked nursing-bottle in violation of an ordinance which had been secured by the board of health, the complainant. Several other druggists have been proceeded against, and they propose, with the backing of the local pharmaceutical association, to carry their cases to the court of last resort.

CAN "CASTILLOA" RUBBER BE CULTIVATED PROFITABLY?

By J. C. Harvey (San Juan Evangelista, Mexico).

SINCE the publication of my article on rubber culture in THE INDIA RUBBER WORLD of October 1, 1898, I have received so many inquiries upon the subject that I am prompted to offer the following notes concerning *Castilloa elastica*. In my opinion, plans for investment in the production of rubber may be considered under two heads: (1) the exploitation of natural reserves known or assumed to contain numbers of rubber trees, and which involve simply the purchase or control of such lands to proceed methodically and at once to tap the trees for immediate profit; (2) the acquisition of lands suitable for the growth of rubber, systematic planting thereon, and a delay of some years before any returns can be expected.

To appreciate these propositions, we are led to inquire if any of the rubber trees are to be found in any one locality in a gregarious state, comparable, for example, with the forests of spruce or pine in Oregon, the pine forests of Michigan, or the *Sequoia sempervirens* (red wood) of California. Every botanical traveler in the tropics knows that such is not the case, especially where a heavy rainfall prevails. It is true that a great difference occurs in the aggregation of species in a given area. First, we find the distinctively littoral, or seashore plants, made up generally of a lesser number of species than those farther inland; then the flora changes greatly, almost entirely, as the coast is left, undergoing yet a greater difference in character as the lower slopes of the mountains are reached, ultimately changing almost entirely as extreme heights are reached. These facts should be clearly understood, that no impression may prevail that there exist immense reserves made up very largely of any one species of plant growth, in the tropics of either Central America or South America, or like gregarious forests of *Castilloa elastica* in either Mexico or the West Indies, and the same is true regarding the rubber species of the tropics of Asia, Africa, and Malayasia. The truth is, these forests are made up of a host of species; nowhere in these regions do we find a strictly forest growth made up of one, two, or even a dozen species, and often where one particular acre, or a number of acres, may have a fair number of a certain species, one may travel miles without seeing another tree of the same species.

That very large capital, in view of the high price of rubber, may find the exploitation of these immense primitive areas in South America, or other countries, profitable, goes without saying. For example, a million acres purchased at ten cents per acre (in the aggregate a large sum), may be expected to give good returns, though many portions may contain very few trees, or none whatever. A large outlay would be required to locate the particular portions of so large an area, and even then, it would appear difficult to determine the probable number of trees; without such knowledge, an estimate of expense and profit must at best be vague and uncertain. The attempt, however, to develop the undetermined resources of smaller areas with moderate capital will in many cases fail signally, for the reasons already stated, and, furthermore, it is practically impossible to make any estimates of the capital required to develop the resources of the primitive forests. There may be fifty rubber trees on one acre; there may be one tree on another, and in all cases intermingled with a host of other trees, overgrown with a rampant vegetation of vines and jungle.

I have been asked this question: If large untouched reserves

of rubber producing trees exist in the tropics in such numbers, and which only need the touch of energy and well-directed capital to cause them to pour forth their pactolean stream of wealth? Why contemplate the proposition of clearing some of the underbrush, and supplementing those acres which have few or no rubber trees upon them with more seedling trees and gradually building up under systematic treatment a forest growth of *Castilloa elastica*, and wait with patience until they come to the yielding stage? I think the answer is contained in the previous statements; consequently, if we determine to build up a plantation of *Castilloa elastica* on the forestry system, we may proceed to make some estimates. If it is decided to develop, say 1000 acres of forest land such as may be found on the isthmus of Tehuantepec where the *Castilloa* is indigenous, we will select the land with a view to its suitability, determined in a measure by proximity to transportation facilities, labor supply, fertile, well-drained soil, largely determined by the presence of an exuberant forest growth already upon it and the presence of a greater or less number of rubber trees. Such lands can be bought at varying prices, more or less depending upon the amount required, nearness to river communication, etc. Lands of such character can be bought all the way from \$1.50 per acre, in 100,000 acre tracts, up to \$5 or \$6, for small blocks of 100 acres; hence, we see that the question is less one of acreage than the number of trees desired, as the initial cost of the land is the smallest consideration.

Plans prepared by the writer some two years ago for the establishment of a rubber plantation on the isthmus of Tehuantepec contemplated the complete clearing of the land and burning, treating it very much as the coffee plantations are treated, and planting rubber seedlings taken from the nursery beds, to aggregate from 225 to 300 trees per acre, thinning out in the third or fourth year—perhaps fifty trees per acre—taking all the sap that could be obtained from them, so that the remaining trees might have sufficient room for development. Careful estimates, gaged pretty accurately from the expenses incident to coffee cultivation under similar conditions, led to a conclusion that the capitalization, including the cost of the land, would amount to from \$50 to \$75 per acre, at the expiration of the fifth year, since it would be necessary to keep constantly cleaning the land between the trees, for under sunlight and freedom weeds, vines, and various undergrowths assume large dimensions in a very short time.

But by adopting a plan, in itself a slight modification of natural conditions, it has been thought advisable to simply clear out the underbrush from the standing forest, including the smaller saplings, leaving the main forest standing, and planting up the intervening spaces with rubber seedlings, as symmetrically as the natural conditions would permit. Under these conditions weed growth in the partial shade afforded by the primitive forest is insignificant, and the cost of clearing per acre would probably be diminished at least one-half, if not two-thirds; while the cost of maintenance in keeping the young trees clean would be also reduced in perhaps equal proportions. Hence, while we would require somewhat more land to get as many trees as under the orchard system, so to speak, the capitalization would be greatly lessened and the labor question minified. There are also grave doubts about the longevity of the trees under the system of open cultivation, the tree being strictly a forest tree surrounded by other trees

affording more or less shade to the trunk, and it is believed from some experiments made that the yield of sap will be more uniform. The bark undergoes a very considerable change when exposed to sunlight and dry heat, open areas being much less humid than within the forest. No tree succumbs quicker to the influence of very high and dry temperatures than the *Castilloa elastica*. This has been shown by forest fires made when clearing for coffee; *Castilloa* trees coming within the influence of dry heat, apparently without having been scorched, have died outright.

Seed ripens in the district under consideration during June and should be gathered daily, as much of it is taken by birds. The vitality of the seed, or, its germinating power, is very short-lived. Seed upon being gathered may be placed in a vessel and barely covered with water. Fermentation will commence within twelve hours, when the seed should be taken out of the water and the pulp removed by washing. It should then be spread out thinly on mats and in a dry and shady place, for perhaps two days, when it should be planted. The writer has had good success in raising plants as follows: Shortly before the seed ripens, beds should be made of any length, but not more than five feet wide, by spading eight or ten inches deep and thoroughly pulverizing the soil. The beds should have a space of about eighteen inches between them, so that the help can pass between and do the weeding conveniently. Drills running cross-wise and at distances of one foot apart serve nicely and should be made one-half inch deep and the seeds lightly covered with soil. The seeds may be scattered in the drills to the number of about fifty, that a good stand may be assured. Experience has not yet demonstrated the best time to transplant from the seed beds to permanent positions in the forest. Good success has attended transplantation in September and October, when the seedlings were but four months old, and when they had attained a height of from eight inches to a foot; or, if the forest be not already prepared for their reception, they can remain in the seedbeds until the following June. It is not possible to lay down arbitrary

rules about transplantation of seedlings, for much has yet to be learned about systematic rubber culture.

Still another plan suggests itself. Assuming that the forest has been sufficiently cleaned shortly before the time of seeding, marking-stakes three feet long can be set in the forest in the positions that the trees are to occupy, and direct seeding can be made in permanent positions, making four holes about one inch deep around each stake in the form of a square six or eight inches apart. Should the seed come up well, the thickest one of each four can be allowed to remain and the others pulled out, and either placed in the nursery or destroyed. Of course, there is considerable risk attached to this plan, for, should a large planting fail, the loss of a year's time would result; while if complete success was attained, it would be the cheapest possible form of planting. There might be a middle course, however. Having a nursery already prepared, stakes could be set for seedlings from the nursery and the intervening spaces could be seeded and all failures from seed could be then supplemented from the nursery.

It is not possible to suggest all the preliminaries touching upon the building of cabins for laborers, getting in supplies, etc., as investors will be governed by local surroundings. It is with great reluctance that the question of profits is touched upon, since there are extant so many estimates showing enormous profits likely to result from rubber culture. The writer and his associates, however, are firmly of the opinion that this culture promises a most flattering return with well directed employment of capital. Consular reports, government bulletins, botanical garden reports, etc., estimate the yield of trees in full bearing at as high as seven and eight pounds of gum to the tree, commencing with a small yield in the fifth year, which, if a net profit of 40 or 50 cents, per pound, to the planter could be assured, would certainly appear to be the most glittering prospect imaginable. The writer would be satisfied with a considerably lower production. The statements and opinions referred to must be taken, like those of the writer, for what they are worth.

THE EVOLUTION OF FIRE HOSE AND CIRCULAR HOSE WEAVING.—II.

By A Pioneer Loom Builder.

TO return to the New York people, in 1869 J. V. D. Reed first became interested in circular weaving, and conceived the idea of making a tubular fabric for hydraulic purposes by having his attention called to a circular hat-weaving machine. He, with Mr. Stowe, took one of these machines, had it altered and, after much experimenting, perseverance, and expenditure of time and money, succeeded in weaving "a 50-foot length of imperfect multiple tubular fabric." This was in the latter part of 1875. Accompanied by Mr. Schenck, he came to the factory of the Boston Belting Co. and Mr. Forsyth lined their hose by his process. It was at this time and this place that it was named "Eureka" hose, a name that has become famous the world over.

The process that really made cotton hose possible, and the one which Mr. Forsyth patented, is that everywhere in use today, which consists, briefly, in passing the steam through the interior of the hose lining and by pressure and heat, sticking it to the fabric, and at the same time vulcanizing it. During the life of his patents Mr. Forsyth did a vast amount of lining for the Eureka Fire Hose Co., New York Belting and Packing Co., and indeed, all of the large companies who had any such work done.

Five thousand feet of this "Eureka" hose was shortly after-

wards manufactured by them for the New York fire department, and the now famous Eureka Fire Hose Co. was incorporated in the same year. Mr. Reed and Junius Schenck were closely identified with it and their different brands of hose up to the time of their death. For several years they manufactured fabric only, their factory being located in Brooklyn. Subsequently they removed their factory to Jersey City, put in rubber machinery of their own, and now have a superb fabric hose factory, devoting their energies to this business exclusively and manufacturing a great variety of brands of both cotton and linen hose, lined and unlined. George A. Weis, who entered the employ of the company as a young man, has "grown up with the business" and is now their manager.

Since the advent of the looms and knitting machines above enumerated, a few others have made their appearance, and the demand for cotton hose has steadily increased from year to year, until it now successfully rivals that of ply-rubber for fire, mill, garden, and other purposes in the leading cities. Even small country towns now have their steamers and the days of light and "rough bore" fire hose are past. It is also being used and appreciated to some extent in Europe, South America, Australia, and the East—more particularly in countries where wooden buildings predominate.

The writer patented in England and built the first circular loom for this purpose manufactured there; and in March, 1893, wove for the London fire brigade, in Manchester, the first 60-foot section of fire hose ever made in that country on a circular loom, the fabric in question being $2\frac{3}{4}$ inches in diameter. It was made of Egyptian cotton, and tested to 500 pounds per square inch.

This particular style of loom had been in use in this country about three years prior to above date. They had many defects and were complicated and cumbersome. They wove all sizes of fabric from $\frac{1}{2}$ inch to $3\frac{1}{2}$ inches and were comparatively speedy, being driven much faster than others which had preceded them. The principal defects were in the cam mechanism, shuttles, and shuttle driving mechanisms, and a cumbersome "take-off." The heddles, or harnesses, also had too long a stroke, opening the "sheds" too wide, making it difficult to maintain the proper amount of tension on the warp threads when the changes in the heddles took place and the wefts were being placed in position against the weaving pin, which tension necessitated the weaving of a close fabric, there being no beating-up mechanism in circular looms as in the case of ordinary cloth, or "flat" looms.

This was our fourth attempt in "improvements" in circular looms. Later, however, being in Europe and having some idle time on my hands in Paris in the winter of 1894-95, and benefiting by past efforts and mistakes in constructing, and several years' practical experience in operating these machines, much time was spent in designing and perfecting a new loom, departing radically in many respects from old ideas. The old-style cams and heddle mechanisms were abandoned, the shuttles and shuttle driving mechanisms were changed, and a take-off altogether new was constructed and so arranged to admit of its being quickly removed from its place under the center of the machine and swung outside the light supporting columns which supported the body proper of the machine, thus leaving, when required, everything clear below the "race," when the mechanism was being cleaned or "threaded up" preparatory to weaving, etc.

These machines were intended to be made in two sizes. First, a large machine for the weaving of all sizes of fabric, provided with large hollow spindles for the covering of steam hose, etc., and in which the warp threads were "beamed." Second, a smaller size, or "pony" loom, for the weaving of the smaller sizes of fabric only, and in which the warps were taken directly from spools as they came from the spooling machine, "beaming" being dispensed with, the advantage being that of great saving in time consequent to beaming, and the ease and facility with which changes could be made from that of a small to that of a larger fabric, and vice versa, without otherwise disturbing the warp and weft threads already in position.

This machine also possessed the advantage of the much lighter numerous small working parts as compared with those of the larger loom, and the much higher rate of speed at which it could consequently be driven, thus enabling the operator to produce a greater quantity of fabric in a given length of time. Slight changes were afterwards made in the design of these machines so that, by the addition of an extra set of heddles and other slight but important changes, they could be converted quickly from a single to a double harness loom, thus making it possible to weave a twill instead of a plain fabric, this latter style hose being in demand to some extent.

Making due allowance for changing shuttle bobbins, oiling machines, etc., these "pony" looms, if made of good material and properly constructed, are capable of being driven from 100 to 130 revolutions per minute continuously throughout the

day, provided the yarns are properly prepared, producing, according to fineness or coarseness of fabric (which usually ranges from six to eight or nine "picks" to the inch), from 1000 to 1800 feet of fabric in ten hours, and drawing in the rubber tubes automatically as the goods are being woven.

In connection with circular looms, it may not be out of place to mention that tension, and careful preparation and beaming of yarns, plays a very important part in the manufacture of hose made on a circular loom. No loom of this kind, however nicely constructed and adjusted, in which "beams" are employed, will perform its functions properly and run rapidly and smoothly, unless the yarns are cleared of all small loose ends and properly, evenly beamed on a good beaming machine, so that each and every individual warp thread will be subjected to the same amount of tension while the fabric is being woven. A machine designed expressly for this purpose should be used and no other, as ordinary beaming machines will not do the work properly. It is also necessary to have a first class machine for automatically winding the shuttle bobbins which will wind evenly and place the weft solidly on the spool under heavy tension, otherwise the shuttle tensions will require frequent adjustment by the operator and cause no end of inconvenience, loss of time and patience. Shuttles made and provided with proper automatic tension devices will require no adjustment from the time the full bobbin is put in, to the time it is emptied of its load of weft.

One small machine for winding bobbins, as above alluded to, will do the work of six boys and supply six or eight looms and do the work vastly better than it can possibly be done by hand.

[CONCLUSION.]

* * *

THE FIRST MULTI-PLY COTTON HOSE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The article published in the May number of your interesting journal, entitled "The Evolution of Fire Hose and Circular Hose Weaving," would be much more valuable if more of its statements were accurate. As the writer has considerable knowledge of the evolution of cotton fire hose, he trusts that a few corrections may be acceptable.

Rubber lined cotton fire hose was invented and patented by Colonel John C. Boyd, of the firm of James Boyd & Sons, of Boston, in August, 1859, and for this invention he was granted letters patent No. 25239. The hose was not manufactured in Lowell, as your correspondent states, but the cotton fabric was made by the Russell Manufacturing Co., of Middletown, Conn., who wove a flat fabric of two or three ply, of different widths, which were required for the different sizes of hose, and with perfectly true selvedge edges. These strips of cotton fabric were coated with rubber by the Boston Belting Co., and they were then made into tubular form by riveting the two edges together with copper rivets in the same manner as leather hose. This was the first multi-ply cotton hose made in the world and it was introduced to the public at the firemen's muster which occurred in Manchester, N. H., September 14, 15, and 16, 1859. Its grand success at that time will be well remembered by some of the firemen who are still living and who witnessed the tests to which it was subjected. This hose was furnished by James Boyd & Sons to nearly all the principal cities and towns of New England and very many in the south and west, but the copper rivets and the thick lap made it rather heavy and clumsy. It was nevertheless much preferable to the greasy leather hose and the expensive and heavy rubber hose. Your correspondent is mistaken in supposing and believing that this hose was the invention of a man named Hunt.

While examining some of this hose in the office of Mr. Alexander Boyd, of the firm of James Boyd & Sons of Boston (not in Philadelphia), Mr. James Bennett Forsyth, of the Boston Belting Co., conceived the idea of lining the cotton fabric after it was riveted. He did so successfully and patented the process. The rubber lining was made in long strips of green rubber and cemented into tubular form by hand. This tubular rubber lining which was cemented or frictioned on the outside was then pulled inside of the riveted cotton fabric and expanded by steam pressure. The heat of the steam softened the cement or "friction" and caused it to adhere tightly to the fabric, and at the same time completed the vulcanization of the rubber itself. This invention of Mr. Forsyth's was one of the most important connected with the manufacture of cotton hose, and his methods, with little or no improvement, are used to-day by all manufacturers in that line of business.

The next step in the evolution of the modern cotton hose was the elimination of the rivets, thereby reducing the weight as well as the cost, and avoiding the weakest feature of construction. Several inventors worked hard to solve this problem. L. R. Blake in 1870 tried stitching the lap, as your correspondent describes. This, however, was not a success. Numerous other attempts were made, as described by your correspondent, with more or less success, and all at great expense, but no decided success was scored until Mr. B. L. Stowe, assisted by Mr. J. Van D. Reed, of New York, invented and patented a method of weaving a solid woven multi-ply seamless cotton fire hose, for which the United States government issued letters patent March 23, 1875. This hose was exhibited at the national convention of the Chief Engineers of the Fire Departments of the United States, held in New York city in October,

1875, and not only received the highest commendations in reference to the principles of its construction, but was pronounced to be "the fire hose of the future." The fulfillment of this prediction made twenty-four years ago is well known to all interested in fire department matters by the enormous success of the Eureka Fire Hose Co., and the popularity of their goods.

Your correspondent mentions Mr. Callahan's patent, granted in 1877, but omits to speak of the Eureka patents granted in 1875. He also tells of the efforts and experiments of Colonel Dodge and Mr. Cowen, but gives no dates of patents granted to either of them. In the writer's opinion, Colonel Theodore A. Dodge, of Boston, is certainly entitled to a great amount of credit for his perseverance and enterprise, as well as for his liberal expenditure of money in endeavoring to secure a successful rubber lined cotton fire hose. His company (The Boston Woven Hose Co.) originally made a solid woven hose like the "Eureka," but when the Eureka patents were sustained by Judge Nixon, in the United States circuit court, in 1879, they discontinued the use of the binding threads, and have since made a woven jacket hose.

I notice also that your correspondent, in mentioning names of inventors in the "seventies," omits S. W. Baker, of Providence, R. I., who invented the "Baker fabric," which has since been so successfully manufactured and sold by the Gutta-Percha and Rubber Manufacturing Co. (New York).

I have only sought to correct your correspondent's statements of facts and figures during the period covered by his first article and notice that we are to be favored by another, which I presume will complete the history of Fire Hose and Circular Hose Weaving to date.

J. B.

Philadelphia, May 17, 1899.

HEARD AND SEEN IN THE TRADE.

"THE influence of the government upon the markets is wholly bad," says the New York *Journal of Commerce*. "It is always in the direction of the cheapest article, and its insistence upon a low price, together with its limited means of ascertaining quality, constitutes the most favorable conditions imaginable for the debasement of goods and the substitution of imitations and counterfeits and adulterations." The *Journal* further points out that the government, in buying only on bids, fares no better than the great retail merchants, who have their buyers out in all the centers of distribution, making the best bargains they can, but buying in the open market. It is pointed out that, under the right kind of purchasing agent, the government would be perfectly safe in buying in the open market; under the wrong kind, the contract system is "ineffective to secure either a low price or a high quality."

* * *

"THERE is support for the *Journal's* position in the experience of the rubber trade," said a member of the trade. "Certainly the rubber business has suffered through the effect of the government's system in depressing prices. I have in mind certain concerns who have exerted themselves to get public contracts, for the sake of the supposed advertising value of the fact that their goods are used in the government departments. Such concerns have made very low prices, in order not to fail to secure contracts. The trouble is that the prices to the government soon become public property. Then the private buyer concludes that he ought to buy as cheaply as any other purchaser from the same manufacturer, and prices gradually tend

downward to the government price. The result is that the loss to the contractor on his general trade offsets all the benefit which his connection with the government gives him, besides which the trade of all his competitors suffers from the low level of prices which has thus been established. Then they all have to get together and resolve to advance prices to overcome the bad effects of the mistaken policy of the manufacturer who has risked everything in order to be able to claim the government as a customer."

* * *

THE detachable bicycle tire evidently has not seen its last day, by a good deal. The principal patent under which the Dunlop tire is made in this country is one granted to Brown and Stillman, December 20, 1892. The Dunlop people paid \$100,000 in cash for that patent before it was issued by the patent office at Washington, and before 100 pairs of the tires had been put upon the market in this country. They considered at the time that they had bought it very cheap, and they have since had no reason to change their opinion. A short time ago the American and Canadian rights under this patent were bought from the Dunlop Pneumatic Tyre Co., Limited, by a syndicate of Toronto capitalists brought together by the efforts of Richard Garland, manager of the Canadian branch of the Dunlop company. A gentleman from that city tells me that the syndicate paid \$500,000 for the patent, at once selling the Canadian rights alone for \$300,000, this being the basis of the \$300,000 preferred stock of the Dunlop Tire Co. of Canada, Limited, since organized. The profits of the Canadian business last year having been over \$50,000, the preferred stock of

the new company was subscribed ten times over. Earnings of \$50,000 would pay the 7 per cent. guaranteed on the preferred stock and leave \$29,000 for dividends on the \$700,000 common stock, which my Canadian friend describes as so much "velvet." A member of the American Dunlop Tire Co., who continue to operate under this patent, tells me: "I am not prepared to say what the Canadian syndicate paid for the patent, nor at what they value it now, though personally I should say that \$500,000 would be a very moderate valuation to set upon it."

"RUBBER shoes made abroad are less desirable than ours for the reclaimer, when they become 'scrap,' on account of the ingredients used in manufacture," said a superintendent who has been studying the subject on both sides of the Atlantic. "In the first place, China clay is largely used in foreign made shoes. Over there the people like a stiff shoe, and China clay adds stiffness to the product. Then a considerable use is made of Gutta-percha scrap, obtained from old insulated wires. Our reclaimers haven't learned how to get good results from scrap containing China clay and Gutta-percha—ingredients which are not employed in American rubber goods."

"I HAVE noticed in THE INDIA RUBBER WORLD that an American firm has made a start in the rubber shoe trade of Turkey," said a visitor from Europe. "That trade was controlled at one time in Great Britain—largely through a Greek merchant at Constantinople who was, I understand, killed during the war of his country with Turkey. At any rate his trade went to pieces, and the manufacturers concerned lost their business in that direction. It probably would take some time for any manufacturer to build up a trade in a country so remote as Turkey and with business customs so different from those of English speaking countries."

I AM told that "the past winter was more favorable to the rubber footwear trade in England than any season for several years past. It is not every year that England has enough snow to drive people to wearing rubbers, and it is only when snow is plentiful that the trade in these articles is active. In the winter of 1894-95 there was so much snow as to induce some rubber factories to increase their facilities for making rubbers, but ever since they have been without a real good demand—unless the winter just past was an exception. The only part of the British islands where rubbers are in order every winter is the northern part of Scotland."

"THE American manufacturer of rubber machinery has an advantage over his foreign competitor," said a rubber man who returned lately from Europe, "in that he is prepared to fill orders promptly, whereas the European manufacturer is often obliged to wait to prepare patterns. This fact likewise adds to the cost of the foreign machinery."

AN energetic selling agent for a good rubber concern has been talking to me about the chasm which, he thinks, exists between his department of the business and the factory. "It seems," said he, "as if the policy of the company were to keep the factory and selling department as far apart as possible. On the other hand, the salesman cannot know too much about the goods he has to handle. I should regard myself better qualified as a selling agent if I had spent a few years in the factory. Then I should be able to discuss more intelligently questions which are liable to come up at any time respecting different qualities of goods and the reason for the difference. I believe that the rubber goods business would be in a far better condi-

tion to-day if more salesmen were intimately acquainted with the details of the trade, beginning at the factory. To-day there are salesmen who are charged with having no other idea of how to book orders than by underselling all their competitors. But how can a man talk intelligently of the quality of goods, and present arguments to a buyer to bring him to the point of considering quality and of paying more for one article than another because it is worth more, if practically all goods are alike to himself? I believe there ought to be new methods of training rubber salesmen for their work, and the first step ought to be taken in the factory."

THIS conversation recalled my meeting, a few years ago, with a young Mr. Traun, the son of a great rubber manufacturer in Germany, who, after learning something about the factory end of the business, came to America to pick up something more about the rubber trade, including a practical experience in handling crude rubber. Before returning home he spent some time at Pará, after which he spent a year in China and Japan, every step being taken with a view to broadening his grasp, not only of the rubber trade, but of commercial methods in general. Then he was in a position to return home and give intelligent supervision to some branch of the business there, with a view, no doubt, to becoming ultimately the head of the firm. The son of an American manufacturer would have been content to stay at home and follow in the footsteps of his predecessors, depending upon the old methods, in the old field, and leaving to somebody else the development of business on new lines. This difference in traits helps to explain why, with the newer rubber industry in Germany, that country to-day is exporting four times as many rubber goods, in value, as the United States.

THE MAN ABOUT TOWN.

RUBBER UNIFORMS FOR THE ARMY.

RECENT newspaper reports intimated that the war department had been successful in attempts to secure rubber uniforms that would enable the army in Cuba to remain on duty in the open during the rainy season, by affording as much protection as possible to the wearers. Much of the disease among the troops in the island heretofore has been caused by their exposure in bad weather. The following letter comes in answer to an inquiry:

TO THE EDITOR OF THE INDIA RUBBER WORLD: The quartermaster general directs me to inform you that no specifications have been adopted for any of the waterproof garments that are now being procured by this department for trial.

Slickers (pommel and common), southwest hats, and ordinary rubber boots form the greater part of this class of goods now being procured for the troops in Cuba. A contract has just been awarded for 10,000 white and black rubber ponchos, of somewhat larger size and heavier character than the regulation poncho. Half of this number are to be provided with glove fasteners and the others with the common grommets. They will be distributed for trial by troops in active service. The whole matter is still in an experimental stage and nothing definite can be communicated to you at the present time. Respectfully,

C. F. MILLER,

Quartermaster, U. S. A.

Washington, May 13, 1899.

It is understood that similar rubber uniforms cannot be worn in the Philippines, as the weather is too hot and damp there for such outfits.

THE Culloden Estate, Neboda, Ceylon, in advertising Pará rubber seed for sale, mention having filled one order for as many as 200,000.

THE AMERICAN FLAG ON THE AMAZON.

THE United States gunboat *Wilmington*, commanded by Captain Chapman C. Todd, after having ascended the Orinoco to Ciudad Bolivar (the ancient Angostura), is now on the upper Amazon. The *Wilmington* arrived at Pará on March 10 and at Manáos on April 4, her officers receiving a cordial official and social welcome at both places. The Amazon was explored as far as Iquitos, in Peru, which was reached on April 13. On the return trip an exploration was made of the rio Negro, the Madeira, and other rivers, to their navigable limits.

"It will be a part of the mission of the *Wilmington*," says a correspondent of the New York *Herald*, "to obtain definite information about the people and resources of this region and the opportunities for extending American commerce. Her voyage will open up to the knowledge of the world the great Amazon basin, the extent of which is enormous and the resources of which are unlimited."

"The high price of rubber has stopped for the present all industries not allied to the gathering of this invaluable product. Indians and half breed Portuguese get their own price for working in the rubber forests, and they only seem able to stand the deadly fevers and miasma."

"The Amazon basin, with its sparse population, now exports nearly \$50,000,000 worth of rubber annually. For 300 miles through the delta the rubber trees abound. Thence for several hundred miles the forest, though densely tropical, is sparse in rubber trees. They become thick again, however, about Obidos, 300 miles further up, and around and above Manáos is the fine upper Amazon rubber, coming from the rivers Jarua, Javary, Rio Negro, Rio Branca, Solimoes, Purus, Madeira, and hundreds of other streams tributary to Manáos. While Pará, by its situation, is the key to the Amazon country, it has a rival in Manáos, a young giant of about 30,000 inhabitants, but having a beautiful opera house, electric railroads, modern water works, sewers, and asphalted streets."

Only once before has an American ship gone up the Amazon so far as Manáos. This was the man-of-war *Enterprise*, commanded by Rear Admiral Selfridge, in the seventies.

MOSETIG CAMBRIC.

THIS fine cambric, named after a Vienna professor physician to the general hospital, Dr. Albert Moseitig, is specially woven linen, coated with rubber on one or both sides, and vulcanized with sulphur chloride. It is supplied in three colors, yellow, pink, and black, all fast, of course, and though more expensive than wax or oilcloth in first cost, is really cheaper because of its superior quality, referred to as being and can be washed in hot and cold water, with acid and alkalies, and kept for several days in 5 per cent. carbolic acid. Several of the continental armies use it for wound dressing, and it has found very wide application in hospitals. The cambric is made by the Vereinigte Gummiwaarenfabriken Harburg-Wien.

A GOOD PRIVATE FIRE SYSTEM.

ONE of the most complete "private fire departments" in this country is that of the world famed drug establishment of Parke, Davis & Co., of Detroit, Mich., which covers three city squares. This service was organized in 1882, and embraces a well trained force selected from the firm's employés, together with the best appliances. Chief Leon C. Fink has favored THE INDIA RUBBER WORLD with a letter giving some details of interest regarding the methods employed and extent of the apparatus used, from which it is evident that the system is remarkably well organized, and that the whole has proved a most profitable investment for the company. There are 900 feet of hose used, of two or three brands, but all corresponding in size, quality, and weight to 2½ "Paragon" hose



Fire and Water says, editorially, that if such private fire protection "were more commonly introduced, not only would there be fewer destructive fires, but the insurance rates would be sufficiently reduced to pay the interest on the outlay." No doubt some of the companies manufacturing fire hose could build up a good business in supplying suitable outfits for this purpose.

RUBBER PLANTING RESULTS IN MEXICO.

WRITING in *Modern Mexico* from San Juan Bautista, the capital of the Mexican state of Tabasco, under recent date, Clarence W. Gano says:

"During the past few years many planters have turned their attention to the cultivation of rubber, and they are generally of the opinion that it is the most profitable crop that can be grown. One planter, Don Federico Calcanio, a few weeks ago sold the rubber from 2000 seven-year-old trees in San Juan for a net profit of \$3000—an excellent return from ten acres of ground. The rubber tree increases its yield from the seventh to the fifteenth year, after which, if it receives proper attention, it will bring a steady income for two score years or longer. The method of planting is simple and inexpensive, and after the third year there is practically no care bestowed on the plantation beyond seeing that the trees are properly tapped."

A SUGGESTION TO THE RUBBER TRADE.

PARIS EXPOSITION OF 1900.

United States Commission, New York Offices, April 29, 1899.

TO THE EDITOR OF THE INDIA RUBBER WORLD: As it is of the utmost importance that the public should not leave the Paris Exposition of 1900 with the impression that we have in the United States but four or five manufacturers in the India-rubber industry, four or five manufacturers being all that could be properly accommodated in the space at command, it has been decided to confine in one large space, as far as possible, the trade in which your paper is interested. In this space there will be a collective exhibit of the rubber industry. This collective exhibit, being large, can be made so attractive that it cannot possibly fail to make the desired impression upon the foreigner. The result by this method of exhibiting will be:

First.—The expense to each exhibitor will be small in comparison to what it would be if exhibits were taken over, maintained during the Exposition, and brought back by firms operating independently.

Second.—The proper impression on the foreign public will be given of the importance of this industry here, of the large number of manufacturers engaged in it, because all the exhibitors' names will be prominently displayed.

Third.—The industry will be exploited and brought forward during the Exposition to a much greater extent than individually spaced exhibitors could afford, and the benefit at large will be correspondingly greater.

To carry out this plan, each exhibitor, for the privilege of displaying his specialties, having them properly exploited during the Exposition, and competing for medals, will pay his share of the gross sum necessary to cover the general expenses of the collective exhibit. This sum will be previously determined, so that a specific amount in each case can be asked. The sum will be large enough to carry out the plan on the important scale that the prominence of the industry here demands.

It is hoped that, in reaching the manufacturers through the columns of your paper, they will cooperate in this undertaking. Any suggestions from them will be gladly considered. Very respectfully,

M. H. HULBERT,

Director of Varied Industries.

Approved: FERDINAND W. PECK, Commissioner General.

PROFITS OF BELGIAN RUBBER TRADING.

AS evidence of the profitable nature of the control of rubber gathering on a large scale, the prospectus of one of the companies lately floated in London to engage in the rubber business in South America, contains this note:

"The Anglo-Belgian India Rubber Co., with a capital of 1,000,000 francs, has earned during the past year (1896-97) a gross profit on the sale of its produce of 1,524,396 francs, and paid a dividend for the year of 1,000,000 francs, being 100 per cent. on the capital. The 500-franc shares of this company were sold on the Antwerp stock exchange during January last at 7000 francs. So far as can be ascertained, this is the only public company which has been in existence long enough to show results of working. [Why not mention the "Société Anonyme Belge pour le Commerce du Haut Congo"?—THE EDITOR.] The 500 franc shares of a subsidiary company, which has not yet paid a dividend, have been sold on the same exchange at 1050 francs."

It should have been further pointed out that the Belgian companies did not start burdened with obligations to pay dividends on an immense capitalization represented only by the purchase of rubber estates. Their rubber lands cost them nothing to begin with.

OUR RUBBER EXPORTS GROWING.

THE exports from the port of New York during the four weeks ended April 25, classed as "India-rubber goods," amounted in value and were consigned as follows:

Great Britain.....	\$31,534	Brazil.....	1,613
Germany.....	5,294	Argentina.....	1,791
Austria-Hungary.....	183	Ecuador.....	127
Belgium.....	2,570	Colombia.....	49
Holland.....	166	Peru.....	427
Italy.....	6,158	Chile.....	45
Denmark.....	2,875	Venezuela.....	317
Norway.....	203	Australia.....	3,175
Russia.....	671	British East Indies.....	975
Switzerland.....	54	Dutch East Indies.....	65
Mexico.....	1,903	China.....	560
Central America.....	421	Japan.....	2,602
Cuba.....	2,346	British Africa.....	8,060
Porto Rico.....	145	British North America.....	25
British West Indies.....	753		
Dutch West Indies.....	41	Total, Mar 29-Apr 25.....	\$75,288
Haiti.....	10	Total, March 1-28.....	60,073
San Domingo.....	20	Total, February.....	42,902
British Guiana.....	130		

The value of such goods exported from New York amounts usually to something less than 60 per cent. of the total for the United States. These statistics do not embrace dress shields, or clothes wringers, or such rubber goods as may have been embraced in exports classed as electrical material, bicycle material, dental material, and the like. There is further to be considered the large number of tires, the value of which is included in the exports of bicycles. It is probable, too, that some rubber may have been included in the exports classed during the four months covered by this report, as: Belting, \$17,677; hose \$1387; packing, \$11,365; and valves, \$13,684. Crude India-rubber was shipped from New York to the value of \$63,478 and rubber scrap valued at \$23,060. The exports of "India-rubber goods" to Cuba are shown in the table above; other exports to that country were: Belting, \$1353; packing, \$663; hose, \$129. One item reported by the custom house is "Fire hose" (for Ecuador), \$3207. "Rubber tire machinery" (for Liverpool) amounted to \$425, and "India-rubber cement" (for Havre) to \$150. Another was "Tires" (for Australia), \$216.

Dress Shield Exports: To Antwerp, \$2130; Liverpool, \$3671; London, \$8340; Hamburg, \$3003; Southampton, \$5975; Vienna, \$539—total, \$23,658.

Clothes Wringer Exports: Germany, \$4929; Great Britain, \$2670; Norway and Sweden, \$2375; Other Europe, \$751; Mexico, \$76; West Indies, \$73; Brazil, \$40; Australia, \$42—total, \$10,956.

RUBBER ESTATES OF PARA, LIMITED.

A CIRCULAR issued to the shareholders of the Rubber Estates of Pará, Limited, relates to the first results from the operation of this English company, the prospectus of which was discussed in THE INDIA RUBBER WORLD of June 1, 1898. The company's commercial agents at Pará—Kanthack & Co.—cabled on April 5: "April-May we shall ship rubber to the value of about £2000; June-July we shall ship rubber to the value of about £4500." This is a result, the circular says, from work during the rainy season; from August onward, the shipments naturally will increase largely. Arrangements have been made to work 1300 *estradas* on the direct system of labor and 200 more by tenants, with a predicted yield of 750,000 pounds of "fine" and 250,000 pounds of "coarse," for the season. A force of 650 native rubber gatherers is being sent to the estate. The company received 45,000 milreis in rents on account of the last crop, but no rubber was gathered by the company. The secretary is E. F. Johnston, 18-19, Great St. Helen's, London, E. C.

RECENT TRADE PUBLICATIONS.

PRICE LIST OF THE NEDERLANDSCHE CAOUTCHOUC EN GUTTA-Percha Fabrik "St. Joris"—Bakker & Zoon, Ridderkerk (near Rotterdam), Holland. [Paper. $5\frac{1}{4}'' \times 8''$. 52 pp.]

WITH a view to extending their foreign trade this firm, successfully established since 1879, have brought out a list printed in English, covering vulcanized sheet rubber, various forms of packings, rubber tubing, valves; steam, suction, delivery, and brewers' hose; machine belting, conveying belts, billiard cushions, wringer rollers, deckle straps, gas engine bags, four styles of horseshoe pads, rubber mats, squeegees, stamp rubber, hard rubber goods, Gutta-percha goods, etc. They announce a special list of tires for bicycles, carriages, and automobiles. Prices are given in English money, on a wide range of sizes, grades, etc., and the pamphlet is neatly gotten up.

NO. 8 W. LIST. N. I. R. RUBBER WIRE. NATIONAL INDIA RUBBER Co., Bristol, R. I. [Paper. $5\frac{1}{4}'' \times 8\frac{1}{4}''$. 50 pp.]

THIS is a new list, relating to rubber-covered wires and cables—solid, stranded and flexible—for electric light, power, and telephone service; also for divers', signal service, submarine, torpedo, underground, or aerial leaded cables, large stranded feeders, car cables, etc. Dimensions and prices are given for "N. I. R." and "Paracore" solid wires and stranded and flexible cables, feeder cables, electrolier wires, etc. Also, for lead encased cables of the same quality. There are tables showing carrying capacity of wires, weight per 1000 feet of bare copper wire, and other desirable information. The pamphlet includes the minutes of the special committee of the Underwriters' National Electric Association, held at Chicago early in the year, at which new rules were adopted relating to uniformity in insulation requirements.

CATALOGUE AND PRICE LIST OF FINE RUBBER BOOTS AND SHOES Manufactured by the Beacon Falls Rubber Shoe Co., Beacon Falls, Conn. [Paper. $3\frac{1}{4}'' \times 6''$. 63 pp.]

THIS catalogue, the first issued by the newest company in the field, is as handsome in appearance, and seems as complete in the assortment of goods described, as the publications of any of the old companies. Only net prices are given, as the company seeks orders direct from retailers, and these, it is announced, are subject to change without notice. The company's second grade rubbers are marked "Granite brand."

CATALOGUE AND NET PRICE LIST OF HIGH GRADE RUBBER BOOTS and Shoes. 1899-1900. The Joseph Banigan Rubber Co., Providence, R. I. [Paper. $3\frac{1}{4}'' \times 6''$. 63 pp.]

A FULL line of footwear in all the grades produced by the leading companies, including heavy and light goods, with illustrations and net prices for two periods—(1) to October 31, 1899 and (2) from November 1, 1899 to March 31, 1900. The company's second grade goods are called the "Woonasquatucket" brand.—The company also issue a gross price list, filling 16 pages, the figures in which correspond closely with the prices quoted by the United States Rubber Co.

CATALOGUE OF SPORTING GOODS—MACKINTOSH AND RUBBER. Hodgman Rubber Co., New York. [Paper. $3\frac{1}{4}'' \times 6\frac{1}{4}''$. 8 pp.]

AN attractive and seasonable reminder to sportsmen and tourists of the large number of articles produced in the modern rubber factory which are adapted to add to the pleasure of an outing.

1899 CATALOGUE OF RUBBER CARRIAGE TIRES AND SUPPLIES. The Goodyear Tire and Rubber Co., Akron, Ohio. [Paper. $5\frac{1}{4}'' \times 3\frac{1}{4}''$. 12 pp.]

COVERS the new "wing" tire manufactured by this company, the ordinary wire-held solid tires, and rubber cushion tires, besides referring to their special tire machine, and special forms

of tires made for some of their customers.—Two other catalogues refer to pneumatic bicycle tires manufactured by the company, and to their bicycle tire sundries.

"TALK ABOUT YOUR LUCK!" READ THIS. [THE B. F. GOODRICH Co., Akron, Ohio.] [Paper. $6'' \times 7''$. 20 pp.]

ORIGINAL and amusing specimen of advertising, the purpose of which is to point out that the lucky cyclist is the one who uses the tires made by the company named above.—Two accompanying circulars are: "Around the World on Palmer Tires" and "Goodrich Golf Balls."

CATALOGUE OF RUBBER MATS AND MATTING MANUFACTURED by the New Jersey Car Spring and Rubber Co., Jersey City, N. J. [Paper. $4\frac{1}{4}'' \times 6\frac{1}{4}''$. 48 pp.]

SO extensive has become the use of goods of this class, and so great the variety of mats in demand, that more than sixty illustrations are required to give an idea of the product of this company alone. Prices are given, together with much information of value in regard to the ordering and use of rubber mats.

A BATCH OF HANDSOME CATALOGUES.

THE rubber shoe dealer cannot fail to be pleased who is fortunate to receive in one lot, as THE INDIA RUBBER WORLD has done, the catalogues and price lists for the new season of the various companies embraced in the United States Rubber Co. There are illustrated catalogues of the American Rubber Co., the Wales-Goodyear company, and the L. Candee & Co., together with price lists, on a smaller scale, of each of these concerns. A single publication each does duty for the Woonsocket Rubber Co., the "Jersey" brand, and the Meyer Rubber Co. Then there is a separate list for the "Connecticut" brand, which covers the "seconds" of the Wales-Goodyear make. Finally, there is a price list of a special brand of rubber shoes called "Colonial," sold by the United States Rubber Co.

Attention will be paid, on another page, to a comparison of this year's prices with those quoted in the past. The brands and styles are, for the most part, unchanged, except that the "Rhode Island" list, manufactured by the Woonsocket Rubber Co., has been enlarged by a considerable number of additions. A fact worthy of note is that these catalogues, coming out year after year, always have an appearance of newness, and an absence of similarity one to another, which is evidence of both taste and originality on the part of the manager of the company's advertising department—Mr. John P. Lyons—who is responsible for their excellence as specimens of catalogue making.

CATALOGUES RECEIVED.

THE Windsor Collar and Cuff Co., Windsor, Conn.—Catalogue of Waterproof Collars, Cuffs, and Shirt Fronts. Folders.

The Globe Manufacturing Co., Battle Creek, Mich.—Compressed Air for Medicinal Purposes. 8 pp. Also: One Hundred Thousand a Year [relating to deaths from diseases of the respiratory organs]. 8 pp.

Kokomo Rubber Co., Kokomo, Ind.—[Calendar for 1899, advertising The "Defender" Single Tube Tire.

The Scott-Rogers Co., Cadiz, Ohio.—The Field we Occupy [describing the Scott-Rogers pneumatic tire]. 8 pp.

W. D. Allen & Co., Chicago.—[Red Cross Steam Piston Packing.] Folder.

American Electric Vehicle Co., Chicago.—The Twentieth Century Movement [describing automobiles]. 8 pp.

Milwaukee Patent Puncture Proof Tire Co., Milwaukee, Wis.—[Milwaukee Patent Puncture Proof Tire.] 32 pp.

Joseph Dixon Crucible Co., Jersey City, N. J.—Pencilings [descriptive of Dixon pencils]. 16 pp.

AN AMERICAN MADE CABLE FOR THE PHILIPPINES.

THE first cable ship fitted out by the United States government left New York on May 1 for Manila, carrying 212 miles of American made submarine cable to connect our military posts in the Philippines. She was built in England and was known as the Ceballos liner *Panama* when captured off Cuba last summer by a United States cruiser. She was appropriated by our government, renamed the *Hooker*, refitted as a cable ship at a cost of \$100,000, and is now pronounced the finest vessel of her class ever turned out. The *Hooker* carries a full equipment of cable laying, repairing, and testing apparatus—the greater part of which is of American manufacture—together with materials and instruments for 1000 miles of land lines, 100 telegraph offices, and 100 telephone offices. The *Hooker* is likewise a man-of-war, being armed with four six-pounders, and carries a military force of 150 officers and men, in addition to her crew, of whom 32 have been selected with a view to their fitness for cable laying work. Lieut.-Major Joseph E. Maxfield, of the army signal corps, is in command of the cable laying expedition; Lieutenant J. Madden of the military force, and Captain S. J. Hanlon of the ship.

A point of special interest is the fact that India-rubber insulation has been used in the construction of this cable, under specifications supplied by the signal service. It is composed of a strand of seven No. 21 (B. & S.) copper wires, insulated first with a layer of pure rubber, unvulcanized. Next comes a coating of vulcanized rubber, bringing the diameter up to $\frac{3}{16}$ inch. The whole is then served with two layers of jute, in reverse direc-

tions, and armored with sixteen mild-steel wires which have been run through hot asphalt compound. Finally two layers of Russian hemp armor are used, finished with a dressing of terebo proof compound. The total diameter is one inch.

The Safety Insulated Wire and Cable Co. (New York) built 182 miles of this cable, of which 12 miles are of an extra heavy type, for use in shore ends. The standard type weighs about three tons to the mile, and the cable was supplied in five mile lengths and conveyed on huge reels to the water front. The reels were transferred to a barge, where the cable was unwound

and coiled again in the steel cable tanks, of which there are three on the *Hooker*.

Thirty miles of the cable were supplied by W. R. Brixey, the manufacturer of "Kerite" insulated wires and cables, at Seymour, Conn. The specifications were of the same general character as those given in a preceding paragraph. The "Kerite" compound was used for insulation next to the coating of vulcanized rubber applied to the conductor. The specifications issued by the government were extremely rigid, calling for not less than 1000 megohms insulation resistance to the mile and a

pressure test of 5000 volts. The "Kerite" test ran up to 3800 megohms per mile. This cable was shipped from the factory at Seymour, on reels, in lengths of five miles each, to Harlem Dock, New York, where it was joined in one length and loaded upon the transport ship. The accompanying view of the cable on the way from the factory is derived from a photograph.

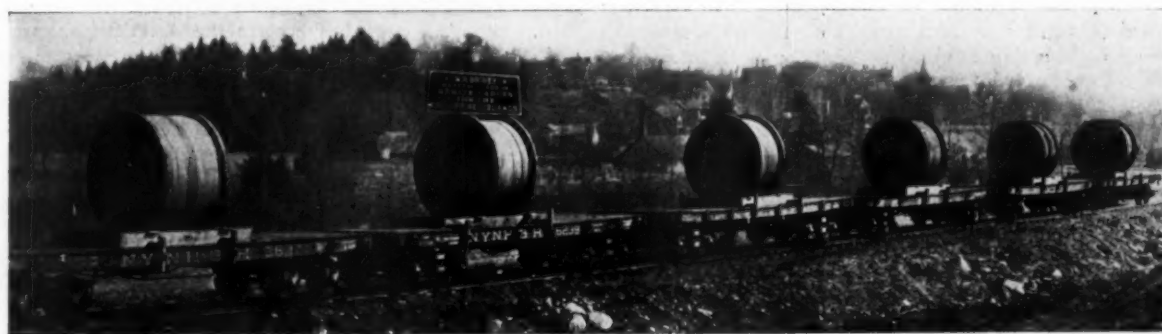
The *Hooker* is expected to reach Manila about June 20.



THE UNITED STATES CABLE SHIP "HOOKER."

View Looking Aft from Forecastle, Showing Safety Cable Being Received and Coiled in Tanks.

[By courtesy of *The Electrical Review*.]



TRAIN LOAD OF PHILIPPINE CABLE FROM THE "KERITE" FACTORY.

[By courtesy of *The Electrical World and Electrical Engineer*.]

DEATHS IN THE RUBBER TRADE.

IT will come as a great shock to the many friends of Mr. George F. Virtue to learn that he is no more, his death having occurred on May 2 at his home in Ashmont, a beautiful suburb of Boston. Mr. Virtue was born in Newark, N. J., June 22, 1854, his parents having come to this country from England a few years before. His father was a large manufacturer of clothing in Newark. Mr. Virtue attended the public schools,

accept the position of manager of The Canadian Rubber Co., which position he held until about twelve years ago, when he resigned as active manager and accepted the position of managing director. Mr. Scholes, by his tact and attention to business, contributed largely to the progress and prosperity of the company with which he was so long connected. Mr. Scholes was an upright citizen, charitable, and always ready to lend a



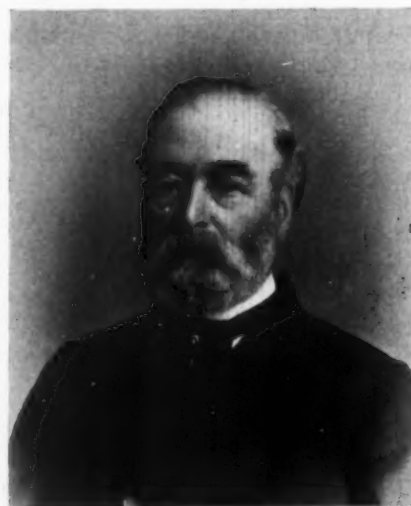
GEORGE FRANKLIN VIRTUE.

and, later, the military academy at Peekskill, N. Y. His first venture in business was as clerk in a shoe store in Paterson, N. J.; later he accepted a position in the same line in his native city. His first special success in business was made with the firm of Barbour Brothers, the thread manufacturers, for whom he traveled, making friends everywhere, and building up a very valuable trade. While with them, he got interested in the rubber business in Lynn, Mass., and became a partner in the firm of Spinney, Virtue & Co. Disposing of this interest about a year ago, he became manager of the mechanical rubber department of the Clifton Rubber Manufacturing Co. (Boston), which position he filled most admirably, keeping his old friends, and making many new ones. At his best, Mr. Virtue was a splendid specimen physically, with a quick active step, and so original and witty in his ordinary remarks, and so quick at repartee, that he was noted throughout the trade as a man who was always alert and ready. He leaves a widow and one son.

DEATH OF A CANADIAN RUBBERMAN.

ONE of the leading citizens of the city of Montreal (Canada) has passed away in the person of Mr. Francis Scholes, who was so favorably known by the business community, having been connected with The Canadian Rubber Co. of Montreal for about thirty-five years, for a time as manager, and in the latter years as managing director.

The subject of this sketch was born at Moat, Ireland, in December, 1816, and emigrated to Canada some fifty years ago, when he settled in Montreal. After having been in the business for several years, being one of the founders of the firm of Childs, Scholes & Ames—now the Ames, Holden Co., Limited, he retired on account of ill health, but later on he was persuaded to



FRANCIS SCHOLES.

helping hand to those in need, and he left large legacies to religious and educational institutions of his adopted city.

GROWTH OF THE INSULATED WIRE TRADE.

IN giving "Some Recollections of Twenty-five Years in Wire Making," in *The Electrical World*, Eugene F. Phillips writes that from his commencement in business, in 1870, to 1874, he was his own president, vice-president, treasurer, secretary, bookkeeper, and superintendent. His sales in 1874 amounted to \$24,856.60. He believes that he was the first in this country to make braided wire for outside purposes, his customer being the American District Telegraph Co., of New York. An order for 1000 pounds at a time was immense. No. 13 waterproof wire sold at 80 cents a pound and No. 19 at \$1. Mr. Phillips's factory has become the American Electrical Works (Providence, R. I.), of which he is general manager. His article concludes by saying that the output of the works, in dollars and cents, is now about the same, every 2½ days, as it was for the whole of the year 1874. This would make the daily volume of output in the neighborhood of \$10,000—or more than \$3,000,000 for the year. The latest report of the Rhode Island factory inspectors gives the working force at the American works in 1898 at 331 men, 156 women, 5 boys, and 8 girls. Mr. Phillips attributes the recent rise in copper largely to the increase in the quantity of heavy-weight wires in electric lighting and electric railway systems.

News comes from South America of the invention of a simple cup that once attached does away with the need for the machete cut, in gathering rubber, and does not injure the tree.

THE INDIA-RUBBER TRADE ABROAD.

IN the latest schedules for tenders for supplies for rubber goods for the London county council, tenders having been sent in on April 24, the Dermatine company's own make of hose, valves, and washers was specifically stipulated.

=The India-Rubber, Gutta-Percha, and Telegraph Works Co., Limited (Silvertown, London), have offered to lay the proposed British Pacific cable for £1,517,000 (= \$7,585,000), including suitable station equipments, duplicate sets of instruments, and the use of two cable repair shops, with the cost of maintaining them and the cable for three years. The promoters of the cable have become discouraged, however, by the attitude of the British government, whose latest proposal takes the shape of an offer of an annual subsidy of £20,000, if the deficit in the company's revenues should be so much, for twenty years, in return for which government messages should be transmitted at half rates. The idea of the government is that, as Canada and the Australian colonies would derive the principal benefit from the proposed cable, they should furnish the means for its construction.

=No dividend has been declared on the past year's business of the Mannheimer Gummi-, Gutta-percha-, und Asbest-Fabrik, the profit being carried over for the new season. The dividend for the preceding year was 8 per cent. Higher wages and higher cost of material, without a corresponding advance in the selling prices, are mentioned in explanation of the poor year's trading, but better results are expected this season.

=The Dunlop Tyre Co. (Australasia), Limited, have been registered in London, with £120,000 capital, to acquire the Dunlop tire business now carried on in the Australian colonies. The directorate is composed principally of members of the parent company, headed by the Earl de la Warr, with two directors resident in the colonies. Arthur P. Du Cros is the managing director, with £100 per year and 1¼ per cent. of the net profits.

=Seven of the most important electrical firms in Germany have issued a circular to the effect that, in consequence of the higher prices of raw materials, they have decided to increase by 5 per cent. the prices of various electric products. The circular is signed by the Siemens & Halske Aktiengesellschaft, the Allgemeine Elektrizitäts Gesellschaft, the Schuckert company, the Helios company, O. L. Kummer & Co., the Lahmeyer company, Felten & Guilleaume, and some smaller firms.

=Hooper's Telegraph and India-Rubber Works, Limited (London), recently shipped to China, for the Great Northern Telegraph Co., 230 tons of two-core and single-core cable, containing Hooper's core, made in 1870-71, which has now been re-sheathed. It is stated that tests have shown it to be as good as when first made.

=The North British Rubber Co., Limited (Edinburgh), have a well-trained private fire brigade, equipped with a steam fire engine of a type of which a number are in use in the city of London.

=A new German regulation provides that mail packages of samples and patterns up to ¾ pound do not require any customs declarations, but all such parcels over ¾ pound will have to be sent to the custom house for inspection of their contents. Recent trade publications.

=An extraordinary meeting of the Deutsche Kabelwerke, vormals Hirschmann & Co., Aktiengesellschaft (Berlin), was called lately for the purpose of increasing their capital from 1,000,000 to 2,000,000 marks, to allow for extensions of their business.

=The French post and telegraph authorities in Paris invited tenders for 28½ miles of Gutta-percha insulated electric cable.

SOME WANTS OF THE RUBBER TRADE.

THE following inquiries come to THE INDIA RUBBER WORLD from patrons. We shall be pleased to be able to place them in communication with parties able to supply their wants. Please refer to inquiries by number.

[26] "Can you give us the address of the Traut Hine & Co., manufacturers of patent stopples?"

[27] The inventor of a bicycle tire which is having a good sale desires to correspond with rubber manufacturers who are prepared to supply raw rubber stock ready for vulcanizing, the latter operation to be conducted by himself.

[28] A dealer in crude rubber would like to correspond with some foreign manufacturer of rubber substitute who is not now represented in the United States, with a view to taking an agency for the same.

[29] "We should like to buy some hard rubber scrap. Perhaps you can give us addresses of parties handling this article."

[30] "What houses make a specialty of cutting patterns for the mackintosh trade?"

[31] "We have been experimenting, without much success, in getting our rubber a 'jet black,' and trying to prevent the sulphur from 'blooming.' We should be pleased to learn what to use to improve our compounds."

[32] A firm doing a large notion trade in a western city wishes the names of "reliable dealers in rubber goods."

ANSWERS.

[17] The Mineralized Rubber Co., New York, write: "We are first hands on Gutta-percha and supply a good many of the rubber stores throughout the United States, being selling agents in North America for the Gutta-Percha Co., of London, the largest concern of its kind in existence."—The Harburg Rubber Comb Co., New York, write: "We are in a position to supply Gutta-percha sheet."—George Borgfeld & Co., New York, write: "We are importers of Gutta-percha sheet made by the Hanover Rubber Co."

SUING FOR PROFITS ON "RUBBER."

A MAN known as Dr. Hans Hogelsberg, who had done business in New York as a stock broker, operating principally through the mails, was arrested in May at Los Angeles, Cal., on the complaint of Ernest S. May, a New York hotel keeper, who charged him with the larceny of \$8100. May says that he gave \$3000 to Hogelsberg with orders to buy 300 shares of the preferred stock of the United States Rubber Co. The \$3000 was May's margin. The stock was bought, May says, at 101, and by his orders sold on April 11 at 118, which should have yielded a profit to May of \$5100. He received, instead, a letter from Hogelsberg announcing his failure. May is attempting to recover both his \$3000 margin and the profits on the alleged sale of shares.

THE Swedish-English Rubber Co. are mentioned by *The India-Rubber Journal* as having been formed, with a capital of 400,000 crowns (= \$117,200), which may be increased to 1,200,000 crowns, to establish rubber works in Sweden. English machinery will be used.

CHINESE IMPORTS OF RUBBER SHOES.

THERE have been published in THE INDIA RUBBER WORLD from time to time statements regarding the imports of rubber shoes at the Chinese ports of Canton, Kowloon, and Shanghai, which have been increasing in recent years. In order to learn whether the imports of such goods were confined to the three ports named—since there are altogether twenty or more ports of entry in China—a letter of inquiry was sent to the imperial maritime customs, to which the following reply has been received:

Inspectorate General of Customs,
Statistical Department,
Shanghai, March 18, 1899.

[TO THE EDITOR OF THE INDIA RUBBER WORLD.]—Sir: In reply to your letter of the 9th February, regarding the importation of India rubber shoes into China, this department prints the returns of trade as received from the treaty ports; where articles, the import of which during a year does not amount in value to *Asikwan taels* 1000 (say gold dollars 700), are not separately classified but are included in "Sundries unenumerated." I regret, therefore, that I have no information on the subject beyond what is published in our annual returns. I am, sir, your obedient servant,

F. E. TAYLOR,
Statistical Secretary.

This would suggest that the total trade in rubber shoes outside the three ports named above is probably insignificant. The imports at Canton in 1897 were 73,746 pairs of rubbers; at Kowloon, 56,751 pairs—total, 130,497. The total for 1896 was 102,093. Shanghai imported 25,776 pairs of shoes in 1897, leather and rubber.

GROWING OUTPUT OF ACCRA RUBBERS.

ACCRA rubbers were produced, during 1898, to a larger extent than in any former year, according to the showing of exports through the custom houses of the Gold Coast colony (west Africa). The figures for five years follow:

YEARS.	Pounds.	Value.
In 1894	3,027,527	\$1,162,750
In 1895	4,022,385	1,610,350
In 1896	3,735,439	1,569,085
In 1897	4,956,727	2,098,985
In 1898	5,984,984	2,758,337

The values here quoted are reported in English money, converted at \$5 to £1. The shipments in 1897 included 3,307,685 pounds to Great Britain and 424,093 pounds to Germany. The colonial authorities suggest that, to insure the preservation of the trees, it may be necessary for the government to intervene, probably by requiring natives to take out licenses for working the rubber trees, under regulations forbidding the trees to be cut down. The Germans, in the neighboring colony of Togoland, have such a system in force.

A RUBBER COAGULATING MACHINE.

IT is learned from Messrs. Thomas Christy & Co. (25, Lime street, London, E. C.), that they have sold "a rubber coagulating machine which has given every satisfaction, and turns out a very fine class of rubber, quite free from dirt and foreign matter. One of its great advantages is that the rubber can be coagulated without the admixture of chemicals, except in certain circumstances, and can be got ready for export free from water and moisture, saving a great deal in freight and labor." It is understood that a circular describing this machine will be printed soon, and that it is not built on the Biffen centrifugal system.

RECENT RUBBER PATENTS.

A LIST follows of United States patents granted recently for inventions involving applications of India-rubber. Copies of specifications may be ordered through the office of this journal at ten cents each.

ISSUED APRIL 4, 1899.

- No. 622,239. Air Bed or Cushion. John J. Lane, St. Louis.
- No. 622,303. Pneumatic Tire. Herbert N. Wayne, Newton, Mass., assignor to the International Rubber Tire Co., Portland, Me.
- No. 622,304. Pneumatic Tire. Herbert N. Wayne, Newton, Mass., assignor to the International Rubber Tire Co., Portland, Me.
- No. 622,436. Repair-Patch for Rubber Tires. James E. Bancroft, Toledo, Ohio, assignor to the National Cement and Rubber Manufacturing Co., same place.
- No. 622,450. Insulating Material. Julius DeLong, New York city.
- No. 622,559. Horseshoe. McElmer Stewart, Kansas City, Mo., assignor of one-half to John T. Wellington, same place.

ISSUED APRIL 11, 1899.

- No. 622,673. Ventilated Shoe-Heel. Guiseppe Ferrata, Greenville, S. C.
- No. 622,727. Flexible Skin or Fabric. John H. Stevens, Newark, N. J., assignor to The Celluloid Co., New York.
- No. 622,796. Pneumatic Tire. William I. Dreisbach, Williamsport, Pa.
- No. 622,812. Sleeping-Bag. Adelard Lapierre, Montreal, Canada.
- No. 622,834. Ball. Bertram G. Work, Akron, and Coburn Haskell, Cleveland, Ohio.
- No. 622,848. Syringe. Letitia Mumford Geer, New York city.
- No. 623,034. Rubber Tired Wheel. Thomas J. Reid, Columbus, Ohio.
- No. 623,058. Coat-Sleeve Holder. Hattie Williams, Hudson, N. Y.
- No. 623,074. Means For Joining Ends of Inner Tubes of Pneumatic Tires. Frank R. Chamberlain, Newton, Mass., assignor to the Newton Rubber Works, same place.
- No. 623,086. Storm Suit. Philip Kaufman, Baltimore, Md., assignor to Lizzie Kaufman, same place.

ISSUED APRIL 18, 1899.

- No. 623,199. Sack, Bag, or other Flexible Receptacle. Adelmor M. Bates, Chicago.
- No. 623,276. Pneumatic Wheel-Tire. George H. Clark, Boston.
- No. 623,278. Pneumatic Tire. George H. Clark, Boston.

ISSUED APRIL 25, 1899.

- No. 623,703. Tire. Joseph A. Burrows, Akron, Ohio.
- No. 623,803. Heel-Rubber. John H. Morrow, Chicago.
- No. 623,852. Overshoe Holder. James E. Wallace, Willock, Pa.
- No. 623,860. Wheel Tire. George D. Wood, Edinburgh, Scotland.

DESIGN PATENTS.

- No. 30,475. Hot-Water Bottle. Charles A. Tatum, New York city. Issued April 4, 1899; term, seven years.
- No. 30,482. Horseshoe Pad. Robert T. Badgley, New Rochelle, N. Y. Issued April 4, 1899; term, seven years.
- No. 30,583. Wheel Tire. John A. Blaurock, New York city. Issued April 18, 1899; term, fourteen years.
- No. 30,641. Rubber Heel. Heber C. Peters, Boston, Mass., assignor to Frank W. Whitcher & Co., same place. Issued April 25, 1899; term, fourteen years.

TRADE MARKS.

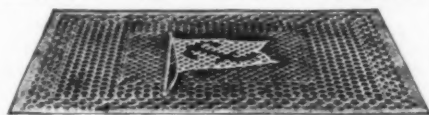
- No. 32,755. Rubber Heels or Soles. William C. Grieb, Philadelphia. Issued April 25, 1899; essential feature, the representation of a spider; used since March 7, 1899.

ATTENTION is called to the advertisement, on page xviii, of a new book on "Crude Rubber and Compounding Ingredients."

NEW GOODS AND SPECIALTIES IN RUBBER.

ARTISTIC YACHT MATS.

AT this season of the year, when the final equipment of yachts, big and little, is being pushed, many thoughts are turned toward the type of tread that shall go on the stairs, as well as the mats for various places in the saloons and passage-ways. A company who have ever had marvelous success in this sort of equipment—The New Jersey



Car Spring and Rubber Co. (Jersey City, N. J.)—have lent to THE INDIA RUBBER WORLD the illustration here given, which shows a very simple type of mat for this purpose. As a matter of fact, however, almost anything in the way of mats, molded or perforated, with initials, names, or yacht pennants, in almost any color, can be produced on order by the company named.

DR. LAKE'S ANTISEPTIC FINGER COTS.

THIS is an article adapted especially to the use of physicians, surgeons, pharmacists, undertakers, photographers, and others who wish to protect their fingers from stains from chemicals or dyestuffs, and also from any possible infection from a cadaver



or from any kind of blood poisoning. They are commended especially to amateur photographers, many of whom are averse to having their fingers bear evidence of devotion to their fad. These goods are flexible, durable, antiseptic, protective, and do not interfere with the sense of touch. "They are so thin that you do not know you have them on, and so perfect that there is no danger." Manufactured only by the Huron Rubber Co. (Eugene Herbert, manager), Cleveland, Ohio.

DYKES'S PATENTED RUBBER HEEL.

ONE of the newest features in rubber shoe heels is the introduction of a soldered wire screen, in place of washers, to prevent the nails from pulling through and the heels from working



loose, and also to keep the rubber from spreading. The rubber is made in two grades as to thickness—the "Flexible," $\frac{3}{8}$ inch, and the "Heavy Suction," $\frac{1}{2}$ inch. The "Flexible" heel was described in THE INDIA RUBBER WORLD of November 1, 1898, but at that time it did not include the wire screen. This invention is referred to as having advantages over the method of using small washers for the nails, in that the screen is lighter than the washers, and less liable to break through the rubber. The flexibility of the heel is said to be in no way impaired by the use of the screen. The suction holes are described as being of just the right breadth and depth to expel any dirt that might adhere to the heel, and this is aided by the round heads of the nails. Manufactured by the Jno. L. G. Dykes Co., Incorporated, No. 96 Fifth avenue, Chicago.

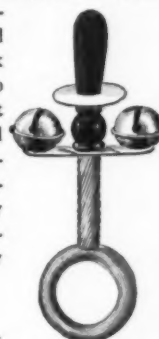
A NEW CHURN FOR MACKINTOSH WORK.

THE use of churns in proofing for the trade and for mackintosh work in factories, as well as in many special lines, is really quite large. The illustration shows a simple and practical form of churn that is, perhaps, as largely used as any type that has yet been made. Any one who is at all likely to purchase an apparatus of this kind, will understand from the cut all that any description could suggest. The churn here shown is of 300 gallons capacity, and is manufactured by the American Tool and Machine Co., Boston.



"BABY COMFORT" WITH BELLS.

AN article which is calculated to attract the eyes of mothers, as well as to please the children, is illustrated herewith. It is of good size and bright in appearance. The nipple is black in color, the bone shield is heavy enough to be durable, the nickel bells have a pleasant tone, the handle is made of heavily plated twisted metal, and the teething ring is rubber of good quality. This article is catalogued as the "No. 10 Baby Comfort," by the sole manufacturers, the Jerals Manufacturing Co., No. 27 Murray street, New York.

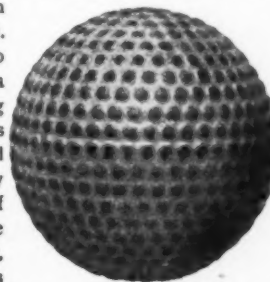


A NEW ENGLISH PUNCTURE LOCATOR.

THE Yankees are by no means the only inventors on earth. This has doubtless occurred to many when they have used various inventions of English origin that had the name Rowley attached. The latest, and one that the American market will soon see, is the Rowley Puncture Locator, which not only instantly locates punctures big and little, but heals the little ones without in any way injuring the rubber.

"GOODRICH PEBBLE" GOLF BALLS.

AMONG the American concerns who have devoted their attention to the production of golf balls none have given greater care to the subject or gone more thoroughly into it than The B. F. Goodrich Co., of the Akron Rubber Works (Akron, Ohio). Their success is understood to have been quite satisfactory, a great many thousand balls having been sold last year, while there is a prospect for a larger demand this year. Points to which they invite attention are the quality of the Gutta-percha used in these balls, the molding, the seasoning, and the painting. Reference has been made before, in these pages, to the regular "Goodrich"



golf ball. There is now illustrated a ball with a new style of marking, but with no difference in quality or price from the regular ball.

A RUBBER SHOE POLISH.

SOMETHING that is really new and original has been brought out in the shape of a good polish for rubber boots and shoes. Not only is this novel, but it is useful, for in addition to improving the looks of the articles to which it is applied, the liquid acts as a preservative for the rubber. The liquid dries in a moment, gives a jet black luster that will not wash off, and will last a long time. Manufactured by the Electric Polish Co. No. 235 Washington street, Boston.

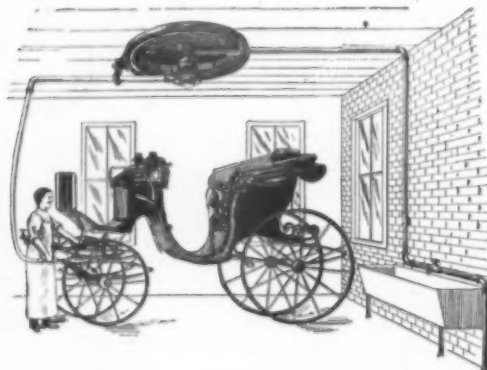


NEW USE FOR RUBBER IN SHIPS.

OUR English contemporary notes that a Mr. Lawson, manager of the New Howe Cycle Works (Glasgow), in conjunction with a Clyde shipbuilder, is manufacturing watertight doors and windows for use on ships. The idea is the insertion in a groove surrounding the opening of a specially strong pneumatic tube, half the diameter of which projects from the framework, and fits into a groove in the door or window. When the door is shut, the tube is fully inflated by automatic action, and the joint is thus rendered airtight and watertight.

"ELITE" CARRIAGE WASHING MACHINES.

HERE is an invention designed to render unnecessary the dragging about a stable of fifty to a hundred feet of hose, in order to wash the carriages. The device is placed overhead, as



shown in the illustration herewith, and only a few feet of hose are needed to reach every part of a vehicle placed beneath the machine. These machines are made in different sizes, and at varying prices, for livery stables and express and business stables. The illustration refers to a special size—described as "The Elite"—for use in private stables. The price is \$40. Made by the H. Nicholsburg Manufacturing Co., No. 68 Dey street, New York.

THE submarine cable laid last year between Japan and Formosa, a distance of 858 knots, has already proved insufficient for the business which has been developed and a second line has been projected.

BAILEY'S RIBBED BACK RUBBERS.

THIS line of rubbers is manufactured—under patent No. 458,212, granted to C. J. Bailey, of Boston—by the Hood Rubber Co. (Boston). Attention is called to three points with regard to the special features of these goods. In the first place the heel, having a ribbed back, protects the clothing of

THE BAILEY
"PRINCETON."



THE BAILEY
"NEWPORT."



THE BAILEY
"DEFENDER."



the wearer from becoming wet or soiled on the under surface, by breaking the suction which two smooth surfaces create when wet. Secondly, the ribs, being near together at the top and spreading over the heel to the bottom, serve to hold the rubber securely on to the boot and prevent it from slipping at the heel. Thirdly, it prevents the breaking of the rubber at the heel where it first gives out, and a short fit cannot be forced on the wearer. It also secures the shape of the rubber until worn out.

LECTURE ON RUBBER SHOE MAKING.

AT a recent meeting of the board of trade at Middletown Conn., President W. G. Vermilye, who is superintendent of the Goodyear Rubber Co.'s factory in that town, delivered an address on the manufacture of rubber shoes. His talk was illustrated by the putting together of a rubber shoe, by an employé of the Goodyear company, which was handed about in the audience for inspection. Two interesting exhibits were made. One was a pair of rubbers, No. 14, which was one of 500 pairs of rubbers made by the Goodyear company in New York about fifteen years ago, for the Greely expedition to the north pole, and another was a rubber boot made by the company in 1860, which is still in a serviceable condition. The rubbers shown as part of the Greely expedition had been as far north as Greely was when rescued. They were worn over a stocking of wool and a boot of seal skin.

THE seven rubber factories in Rhode Island, according to the fifth annual report of the state factory inspectors, gave employment in 1898 to 1789 men, 1427 women, 19 boys, and 9 girls—a total of 3245 hands. Besides, three elastic fabric factories employed 226 hands and three insulated wire factories 611 hands.

THE large Pará rubber tree in the Trinidad botanic garden, which has been producing seeds for several years, yielded over 2500 in November, 1898. This tree is referred to as the *Hevea confusa* (Hemsley). A small plantation of *Hevea Brasiliensis* recently formed on the island is reported to be growing rapidly.

THE NEW RUBBER TRUST GETS STARTED.

A NNOUCEMENT was made, on May 4, that the organization of the Rubber Goods Manufacturing Co. had been completed by the election of officers, and a list of directors was given out, changed somewhat from the authorized list published in THE INDIA RUBBER WORLD of February 1 last. The board stands:

Charles R. Flint, of Flint, Eddy & Co.; treasurer of the United States Rubber Co.

Henry Steers, president Eleventh Ward Bank.

Alvah Trowbridge, vice president National Bank of North America.

Ulysses D. Eddy, president Flint, Eddy & Co.

George W. Hebard, vice president Westinghouse Electric and Manufacturing Co.

R. L. Edwards, president of the Bank of the State of New York.

Percy Chubb, of Chubb & Son, marine underwriters.

Louis K. McClymonds, of the Mechanical Rubber Co.

Alden S. Swan.

Charles H. Dale, president Peerless Rubber Manufacturing Co.

George W. Blanchard, of the Mechanical Rubber Co.

Charles Stewart Smith, dry goods merchant; director in the United States Rubber Co.

Wallace B. Flint, brother of Charles R. Flint, with Flint, Eddy & Co.

William M. Ivins, lawyer.

Fred W. Morgan, president of Morgan & Wright, Chicago.

The officers are:

CHARLES R. FLINT, chairman of the executive committee.

CHARLES STEWART SMITH, president.

ULYSSES D. EDDY, vice president.

WALLACE B. FLINT, treasurer.

WILLIAM A. TOWNER, secretary and assistant treasurer.

The following statement regarding the affairs of the company is authorized:

"There have been issued, full paid, and are now outstanding 61,966 shares of the preferred stock of the par value of \$6,196,600 and 118,400 shares of common stock of the par value of \$11,840,000.

"The company have acquired:

I. Ninety-one per cent. of the capital stock of the Mechanical Rubber Co., which also owns:

- (a) The plant of the Chicago Rubber Works, at Chicago, Ill.
- (b) The plant of the Cleveland Rubber Co., at Cleveland, Ohio.
- (c) The plants of the New York Belting and Packing Co., Limited, (1) at Passaic, N. J., and (2) at Sandy Hook, Conn.
- (d) The plant of the Fabric Fire Hose Co., at Warwick, N. Y.
- (e) The plant of the Stoughton Rubber Co., at Stoughton, Mass.

II. Seventy-five per cent. of the certified stock of Morgan & Wright, Chicago, Ill.

III. The entire capital stock of the Peerless Rubber Manufacturing Co., of New York.

IV. The entire capital stock of The India Rubber Co., of Akron, Ohio.

V. Together with \$1,427,820 in cash.

"The actual tangible assets of the Rubber Goods Manufacturing Co., after appraisalment by Messrs. Thomas C. Clarke, William Barbour, and Oliver C. Carter, have been certified by The Audit Co. of New York at \$6,196,553, including the \$1,427,820 in cash which remains in the treasury of the company.

"The Audit company have certified the net profits for the year 1898, for the interests acquired by the Rubber Goods Manufacturing Co., at \$1,177,227.98.

"The profits on the interests acquired by the Rubber Goods Manufacturing Co., as represented by the actual earnings in 1898, and the saving in interest account, show an earning capa-

city of about three times the requirements for the service of dividends upon the preferred stock, and represent earnings of 7 per cent. upon the present issue of common stock, without regard to the advantages and economics of consolidation.

"The interests now owned by the Rubber Goods Manufacturing Co. have been acquired by them as of January 1, 1899, and carry profits from that date which, based upon the reports of the officers of the several companies, are estimated for the first four months of the present year at over \$400,000."

* * *

MECHANICAL RUBBER CO., incorporated in New Jersey October 8, 1892, with \$15,000,000 capital authorized, of which has been issued \$1,848,900 preferred stock and \$2,902,000 common—total, \$4,750,900. The company purchased outright the Cleveland Rubber Co. (Cleveland, Ohio), and the Chicago Rubber Works (Chicago), both owned principally by Louis K. McClymonds and John McClymonds, the former being president of both companies, and John McClymonds vice president of the Cleveland company. Gilbert W. Blanchard was vice president and treasurer of the Chicago company. The Mechanical company acquired most of the stock of the New York Belting and Packing Co., Limited, and issued bonds to replace the debentures of the latter company. The Mechanical company also acquired control of the Stoughton Rubber Co., manufacturers of mackintoshes at Stoughton, Mass., and the Fabric Fire Hose Co., owing to their close relations with the Belting and Packing company. Directors: John H. Cheever (president), Louis K. McClymonds (vice president and general manager), William T. Baird (secretary and treasurer), Gilbert W. Blanchard, Charles R. Flint, Joseph S. Auerbach, Treadwell Cleveland.

NEW YORK BELTING AND PACKING CO., LIMITED, incorporated as the New York Belting and Packing Co., in Connecticut, in 1856, with \$200,000 capital. In 1868 the capital was increased to \$800,000. The present company, chartered under English laws, succeeded to the business March 1, 1891. The capital was stated recently at \$2,066,100, with debentures outstanding at the same time to the extent of \$1,037,900, of which about 20 per cent. were held in England. Directors: John H. Cheever (president), Louis K. McClymonds (vice president), William T. Baird (secretary), August Belmont, Gilbert W. Blanchard, Charles R. Flint. Factories at Sandy Hook, Conn., and Passaic, N. J. Offices, No. 25 Park place, New York. About 95 per cent. of the capital stock is said to be held by the Mechanical Rubber Co.

CLEVELAND RUBBER CO., incorporated in Ohio, October 2, 1872, with a capital of \$300,000, which was increased March 1, 1892, to \$650,000.

CHICAGO RUBBER WORKS, incorporated in Illinois, January 3, 1882, with \$80,000 capital, which was increased several times, the last increase being to \$250,000, January 6, 1890.

FABRIC FIRE HOSE CO., incorporated in New York in 1880, with \$20,000 capital, succeeding to the business of Holly & Taylor. The capital was increased to \$40,000 in 1882 and to \$100,000 on June 24, 1889. Factory at Warwick, N. Y., for weaving cotton hose; rubber for lining obtained from the New York Belting and Packing Co., Limited. Office at No. 68 Murray street, New York. Officers: Thomas M. Moore, president; Adolph Doehke, secretary; William T. Baird, vice-president and treasurer; William T. Cole, general manager.

STOUGHTON RUBBER CO., incorporated in Massachusetts, January 7, 1889, succeeding the Mystic Rubber Co., and later buying out also the Hall Rubber Co. The capital was \$100,000 at first, increased later to \$200,000. David C. Marr, president, died March 28, 1898, and the office was not filled afterward. Thomas J. Skinner, treasurer, and Alfred J. Lindsay, manager. In addition to their business of manufacturing mackintoshes, at Stoughton, Mass., the company represent the New York Belting and Packing Co., Limited, in New England, with stores in Boston.

PEERLESS RUBBER MANUFACTURING CO., began in 1875 as the Peerless Manufacturing Co., and succeeded by the present company in 1888, with \$75,000 capital, which was increased in 1895 to \$300,000, and on April 21, 1898, when the company was incorporated under New York laws, to \$1,000,000. Directors: Charles H. Dale (president), Charles C. Miller (treasurer), Brown Caldwell (secretary). Mr. Dale was in the railroad business formerly, and his knowledge of requirements in air brake hose was availed of when he became connected with the Peerless company, first as selling agent, and later as president. Mr. Miller was connected formerly with the Westinghouse Air Brake Co., of Pittsburgh, as had also Mr. Caldwell, whose father is treasurer of the latter concern. Messrs. Miller and Caldwell have retired since the consolidation.

MORGAN & WRIGHT, INCORPORATED. The business of manufacturing rubber goods was commenced as a partnership between Fred W. Morgan and Rufus Wright on January 1, 1884, before which the former had been superintendent for the Chicago Rubber Works, and still earlier with the Akron Rubber Works. Mr. Wright had not been in business before, but had been an artist in New York and other eastern cities. Their original business capital was \$5000. They became incorporated under Illinois laws, December 1, 1893, for twenty-five years, with \$100,000 capital, which was increased to \$500,000 on January 3, 1898. Their sales, principally rubber tires, are reported to have reached \$4,000,000 in 1897. President, Fred W. Morgan; vice president, Mary A. Morgan; secretary and treasurer, Rufus Wright. These are also the stockholders and directors. Factory and office in Chicago, with distributing agencies throughout the United States and in Coventry (England) and Paris.

THE INDIA RUBBER CO., incorporated in November, 1895, as the Akron India Rubber Co., and in 1896 under the above name, with \$100,000 capital. D. H. Kimberley, president; Charles O. Evarts, vice president; C. H. Wheeler, treasurer and general manager; F. A. Wilcox, secretary; C. B. Grant, W. H. Gabriel, C. W. Gabriel, directors. It is understood that most of the stockholders sold for cash, \$230,000 being reported as the price fixed on the plant and business.

CONSOLIDATION OF RUBBER TIRE INTERESTS.

THE International Automobile and Vehicle Tire Co., incorporated in New Jersey in April, completed its organization early in May, with a board of directors and officers as follows:

Edward E. McCall, president; of counsel for the New York Life Insurance Co.

Richard Croker, Jr., vice president and general manager; auditor of the New York Auto-Truck Co.

Adelbert H. Alden, treasurer; vice president New York Commercial Co. B. T. Morrison, secretary and factory manager; treasurer of the Reading Rubber Manufacturing Co.

John A. Blaurock, carriage builder, No. 1593 Broadway, New York. F. E. Bradley, lawyer, New York.

The business of the company was announced to be the manufacture of rubber tires for automobiles and other vehicles, and kindred business that may be embraced in the manufacture of rubber goods. A contract has been made for supplying all the rubber tires to be used by the International Air Power Co. on their auto-trucks in America and in Europe. The company have acquired the factory of the Newton Rubber Works, the rubber tire business of L. C. Chase & Co., and the "Apex" tire patents of the American Tire Co., in New York.

The \$3,000,000 capital is divided equally 7 per cent. non-cumulative preferred and common stock. Subscriptions were invited by a Wall street firm, early in May, for 10,000 shares of preferred stock, at par (\$100), subscribers to be entitled to receive 75 shares of common stock with every 100 shares of preferred stock.

* * *

L. C. CHASE & CO. (Boston), as at present organized, began business February 1, 1893, succeeding to a firm of the same name of many years standing, engaged largely in the manufacture of horse clothing, blankets, etc., which has been continued. In 1891 they became interested in the rubber business, as selling agents for carriage cloths and mackintoshes manufactured by a company organized at Reading, Mass., by B. T. Morrison,

This branch of the business was incorporated, with \$100,000 capital, as the Reading Rubber Manufacturing Co., under Massachusetts laws. The carriage cloth business grew so rapidly that mackintoshes were dropped, but in 1895 tires were added to the output—first at the Reading factory and later in a factory leased in Chelsea, Mass., being the Winnisimmet sheet factory, occupied formerly by the Boston Rubber Co. Their specialty in tires was the "Chase Tough Tread," for bicycles, but they have been experimenting lately on automobile tires. The firm of L. C. Chase & Co. consist of John Hopewell, Frank Hopewell (his brother), and Olindus F. Kendall. John Hopewell is president of the Reading Rubber Manufacturing Co., and B. T. Morrison the treasurer and general manager.

NEWTON RUBBER WORKS, incorporated under West Virginia laws, September, 1893, with \$100,000 capital. Succeeded the Newton Rubber Co. Manufacturers of rubber tires. Factory at Newton Upper Falls, Mass.; offices, No. 123 Pearl street, Boston. Directors: J. Frank Dunbar (president and treasurer), F. E. Stevens, and Oliver Bacon.

A GREAT TIME IN MALDEN.

THE city of Malden, Mass., celebrated during the four days ending May 25, its 250th anniversary. This town has been made famous as the location of the Boston Rubber Shoe Co., and has profited in many ways through the liberality and public spirit of the Hon. Elisha S. Converse, founder and president of that company and the first mayor of the city. It was natural and proper, therefore, that the Messrs. Converse should hold an important relation with the proceedings of the week. The elder Mr. Converse served as chairman of the finance committee, and as such was responsible largely for the success of the celebration. His son, Colonel Harry E. Converse, prominent in the Massachusetts militia, was chief marshal of the procession on May 23, which was the most extensive and imposing that has been seen in the vicinity of Boston for many a day.

THE NEW RUBBER SHOE PRICES.

THE rubber shoe manufacturers, following the course adopted last year, have again fixed their prices for a new season by revising their lists, leaving the rates of discount the same. The net result of the change is that prices are higher, although the advance is not uniform. There was a time when the gross lists were changed whenever the manufacturers considered that the conditions of the trade warranted it, such changes having occurred a half dozen times in a single year, while the rate of discount did not vary. Later the practice was adopted of letting the lists stand, while prices to the trade were raised or lowered by varying the discounts. The discounts which have been in force for the past season or two, however, seem satisfactory to all concerned, and the new advance which the manufacturers regard as necessary will be effected by marking up their goods. The special discount of 5 per cent. on early orders, which figured in last year's contracts with jobbers, has been retained, but the end of the season has been fixed at March 31 next, instead of April 30, as was the case in 1898. It is understood that this change has been made at the request of the trade.

The following comparative table, compiled from the lists of the Wales-Goodyear company for this year and last year, gives examples of the varying percentages of increase in the net prices of different classes of goods. The rate of increase is given as near as is possible without the use of fractions less than one-half of 1 per cent.:

STYLES.	1898.		1899.		In-crease.
	List.	Net.	List.	Net.	
Men's hip boot.....	\$5.25	\$3.74	\$5.55	\$3.95	5 1/2 %
Men's storm king.....	4.50	3.24	4.80	3.42	6 1/2 %
Men's duck boot.....	4.00	2.85	4.20	2.99	5 %
Men's short boot.....	3.50	2.49	3.80	2.71	9 %
Two buckle perfection.....	2.55	1.82	2.75	1.96	7 1/2 %
One buckle perfection.....	2.00	1.43	2.15	1.53	7 %
Lumbermen's over.....	1.50	1.07	1.65	1.18	8 1/2 %
Men's Huron, heel.....	1.65	1.18	1.80	1.28	8 1/2 %
Arctics, rolled edge.....	1.85	1.32	1.95	1.39	5 %
Men's snow excluders.....	1.80	1.28	1.90	1.35	5 1/2 %
Men's heavy over.....	1.10	.78	1.20	.86	7 %
Men's plain sandal.....	1.05	.75	1.00	.71	25 %
Climax self acting.....	.80	.57	.90	.64	12 %
Men's foothold.....	.65	.46	.75	.53	15 %
Men's "Emperor".....	2.50	1.78	2.75	1.96	10 %
Women's "Empress".....	2.02	1.44	2.25	1.60	15 %
Men's light self acting.....	.82	.58	.92	.66	14 %
Women's extra light.....	.50	.36	.62	.44	22 %

[a—Decrease.]

PRICE LISTS RECEIVED.

THE handsome new illustrated catalogue of the Boston Rubber Shoe Co. for 1899-1900, together with their elaborate special catalogue for jobbers, will receive further mention in another issue.

George Watkinson & Co. (Philadelphia) issue a net price list of the "Thistle brand" of rubber boots and shoes, dated May 1. Their rubber boots are manufactured in three grades—"Army and Navy," "Spalding," and "Klondike"—each at a different price. The list includes also wool boot overs, sock overs, wool boot combinations, arctics, and rubber shoes.

The Byfield Rubber Co. (Providence, R. I.) send us a price list of their "Naragansett" brand, or lower priced rubbers, together with form of memorandum of agreement with jobbers handling these goods. Contracts run to March 31, 1900. A special discount is allowed on orders filed before October 15.

The Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, send us their illustrated catalogue of footwear for 1899, with testimonials from leading dealers as to the high character of their products. While one of the newest competitors in the rubber shoe line, this house has already a large trade.

RUBBER SCRAP GOES UP AGAIN.

THE market for rubber scrap is again in a wildly excited condition, in spite of the hopes expressed in the trade a month ago that the era of extreme high prices had come to an end. From the highest prices quoted in the early part of March there was a decline to the neighborhood of 6 cents a pound for carload lots. Toward the end of May, however, there was a sharp advance, some transactions being reported at 8 1/2 cents. There is as yet no indication of a material decline; on the other hand the price may still go upward. The new state of affairs has been attributed:

First.—To the steady increase in the consumption of reclaimed rubber, which keeps pace with the growing consumption of crude gum.

Second.—To the fact that collections of scrap have not been sufficient to meet the demand. It appears that the high prices ruling early in the season stimulated the business of collecting scrap, with the effect of bringing large quantities to market in advance of the usual dates. This early activity was at the expense of current receipts.

Third.—The coincident conditions of large demand and comparatively light supplies, near the close of the collecting season, may have led to the accumulation of stocks somewhere which are being held for speculative purposes.

Meanwhile rubber manufacturers are in the position of having to pay prices for reclaimed rubber which, in former years, would have been deemed prohibitive. The situation has again given rise to the suggestion of an organization among the reclaimers with a view to keeping down the prices of scrap. The importance to the trade is shown by the fact that every advance of 1 cent in the price of scrap means an extra cost of \$100 a day to the rubber factory for every 10,000 pounds of old shoes consumed daily in its reclaiming plant.

SHARPS'S NEW RUBBER SUBSTITUTE.

THE new rubber substitute referred to in our news columns as being exploited by the Manufactured Rubber Co., was patented in England March 4, 1899, by William E. Sharps and Reuben Hilton Chase, of Philadelphia. The invention calls for a process of mixing vegetable oils, such as linseed oil with sulphur, heating the mixture and subjecting it to hydrosaponification. In carrying out the process linseed oil is mixed with about 10 per cent. of sulphur and subjected to stirring, while it is being heated until it solidifies, in other words, until a regular substitute has been made. The heat mentioned in reaching this result is 320° F. A further treatment consists in eliminating the glyceril from the glyceride. This is done by adding to the solid mass a quantity of water and heating the mixture in a closed vessel to a temperature of about 320° F., until it is liquefied. The liquid is then dehydrated and the product is mentioned as being capable of various uses, such as coating for metals. In further explanation of this treatment the inventors say that the glyceride becomes decomposed, while the sulphur goes into the combination to the radical of the oil producing a chemical compound of sulphur and the acid of the oil. The glycerine is removed from the compound with the water as a waste product. To convert the liquid into a rubber substitute there is added to it 10 per cent. of sulphur. The mixture is heated to about 320° F. being stirred all the time until a plastic mass is produced. To produce a harder substance, the compound is again submitted to hydrosaponification until it becomes semi-liquid, and then after being freed from water, 5 per cent. of sulphur is added and the compound effected by heat and agitation.

A LETTER FROM MR. JOHN C. EVANS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Having severed my connection with both the Meyer Rubber Co. and the United States Rubber Co.—the former company being controlled wholly by the latter—on May 1, 1899, I now wish to contradict, if not in whole, at least in part articles that appeared in THE INDIA RUBBER WORLD of April 10, 1897, and September 1, 1898. I feel that anything which reflects discredit on the Meyer company prior to the date when it was merged into the "rubber trust" reflects the same upon me as a manufacturer, so far as the practical management at the works was concerned.

As to the first mentioned article—that of April, 1897—I can say there was at least one director in New Jersey who did not believe in merging; that was the undersigned. I think there were others. And there was one factory that was not run at a loss the year the merging was going on, as I know from having been connected up with it. Accountants of both the Meyer and United States Rubber companies would have borne me out in this as they figured our gross profits from \$75,000 to \$100,000 in round figures for eleven months of the fiscal year ending in 1893. The inference your informant would have the public draw from the above mentioned article was that rubber boots and shoes could be manufactured very much cheaper down in the east than anywhere else, which is not so. Take the same class of goods, of the same quality, and equip the New Jersey factories with equally good salesmen, and they will make as good if not a better showing than any one of them, for the same volume of production. Especially is this true of the Meyer. When we had a good agent in the east (Mr. W. H. Breeden) and another in the west (Mr. E. Bruce Preston) prior to Mr. Christopher Meyer's death and up to within the time that the treasurer of our company began to look after our sales department, our gross profits averaged for ten years at least \$150,000 in round numbers on a \$200,000 capital.

At the time of the closing of the factory at Milltown, it was also said by officials—or by an official—of the United States Rubber Co. that they paid higher wages in New Brunswick than at Milltown, which was not the case. And as to what they told the delegation from Milltown that waited upon them in March, 1897, as to the sale of the Meyer plant, as published afterward in the New York *Tribune*, and also as to one of the "lesser lights" connected with the "trust" crediting me with the idea that they would sell it (as reported in your issue of September 1, 1898) I will quote from a letter from one who was treasurer, secretary and a director of the Meyer Rubber Co., and a member of the executive committee of the United States Rubber Co., under date of March 10, 1897:

"Now as to whether the 'plant' at Milltown can be purchased. I will do the best I can to have it sold to any concern, who will evidently give employment to the people at Milltown, and I favor the idea."

Another, under the date of April 26, 1897, read:

"All that I am authorized to say at present is that whenever you have an apparently bona fide purchaser, we shall be very glad to treat with him, with a view to selling the property referred to, and will be pleased to receive a bona fide offer now, or any time through you, and will consider and act on it in good faith with a view to disposing of the property."

And one dated December 31, 1897, read:

"I can give you no more definite reply than already given, as I have nothing from our directors, as to price of property. They of course could more readily act upon a definite offer, as any individual would, for instance. While I would be willing to sell property I would not put a price on it."

The public may now see for themselves where the idea originated. But I am willing to be credited with the idea that others with myself would have bought it. We would not put a selling price upon it, however, preferring that the party disposing of it should do that. And I would not pay four or five times its value, or what the United States Rubber Co. took or bought it in for, either, but would have given as much for it on the dollar of the purchase price as for any other plant the "trust" bought.

Had I remained with the Meyer Rubber Co. until October 19 next, I would have been with them consecutively a quarter of a century. I have been in their employ all told twenty-five years. I expect to be in the rubber boot and shoe business again soon, with friends. I hope to be in it for "keeps" and for as much longer, at least.

JOHN C. EVANS,
Superintendent and Manager of the Meyer Rubber Co. while Christopher Meyer was President.

[The writer of the above letter thinks that inferences may be drawn from certain publications in THE INDIA RUBBER WORLD, in relation to the closing of the Meyer rubber factory, which are unfair to him. Of course no such idea was in mind in making these publications, which were based upon statements by various persons in the trade, but, with a wish that the utmost fairness may be shown, space is given to Mr. Evans's communication.—THE EDITOR.]

THE EDITOR'S BOOK TABLE.

COMMERCIAL DIRECTORY OF THE AMERICAN REPUBLICS. COMprising the Manufacturers, Merchants, Shippers, and Banks and Bankers Engaged in Foreign Trade; Together with the Names of Officials, Maps, Commercial Statistics, Industrial Data, and other Information Concerning the Countries of the International Union of American Republics, the American Colonies, and Hawaii. Compiled by the Bureau of American Republics. Vol. II—Mexico, Nicaragua, Paraguay, Peru, Salvador, Santo Domingo, United States, Uruguay, Venezuela, and the West Indian Colonies. Washington: Government Printing Office. [Cloth. 8vo. 158 pp. Price, \$5.]

THE first volume of this work related to the countries which, when arranged in alphabetical order, carry the list forward to the letter M. Both volumes are printed in the English, Spanish, Portuguese, and French languages, in order to make their contents available to as many persons as possible. The information given is extensive, brought well up to date, and is apparently accurate. The lists of business firms in some cases are plainly incomplete, but a book covering the entire field would be inconveniently large, besides which many changes would occur before it could be printed. It is not supposed that such a work can be depended upon, in lieu of other means of establishing communication with foreign countries, by firms desiring to trade abroad, but the intelligent merchant will find many ways in which to supplement his present stock of information with the facts contained in this directory, and *vice versa*.

ADVANCE SHEETS OF CONSULAR REPORTS. NO. 285—NOVEMBER 29, 1898. Rubber in Pará. [Paper. 8vo. 6 pp.]

THIS report by Mr. Kavanaugh K. Kenneday, United States consul, while of interest, contains nothing not covered in a report of earlier date prepared by the British consul at Pará and reviewed at length in THE INDIA RUBBER WORLD of September 1 last. Evidently the same sources of information were used in the compilation of the two reports.

AMERICAN TRADE WITH SIAM. A REPORT BY THE PHILADELPHIA Commercial Museum. [Paper. 8vo. 31 pp.]

ACCORDING to this report Siam, a country larger than our state of Texas, is developing a large degree of commercial activity and affords a good market for many kinds of manufactures. The Philadelphia Museums are prepared to help in the extension of American trade there. The rubber goods used in Siam are chiefly of German manufacture.

NEWS OF THE RUBBER TRADE.

CAPITAL STOCK DOUBLED.

THE Goodyear Tire and Rubber Co. (Akron, Ohio), incorporated in September, 1898, with \$100,000 capital, have increased this amount to \$200,000. THE INDIA RUBBER WORLD is informed that this has been done for the reason that their business has grown to much larger proportions than was anticipated, making larger facilities necessary. Their plant was reported recently to have been running day and night, to full capacity, for sixty days or more. They were then turning out 4000 bicycle tires daily and two tons of vehicle tires, with fair prospects that this rate would continue for several months.

ANNUAL ELECTION AT WOONSOCKET.

At the annual meeting of the Woonsocket Rubber Co., on April 24, the old board was reelected, as follows: Samuel P. Colt, Frederick C. Sayles, F. C. Sayles, Jr., Henry Barker, and Walter A. Read. The latter was first elected during the year, *vice* George A. Lewis, resigned. The old officers were reelected, viz.: Samuel P. Colt, president and general manager; Frederick Cook, treasurer; Clarence H. Guild, secretary. Frederick T. Comee is continued as general superintendent of the "Alice" and Millville mills.—At the annual meeting of the Marvel Rubber Co. the same directors and officers as above were elected.

SETTLING THE BANIGAN SUITS.

It is reported that the various lawsuits involving the Banigan estate and the United States Rubber Co. are being adjusted. It is said that the suits are being settled outside of the courts that were brought against Joseph Banigan and others, as a result of their having guaranteed the book accounts of the Woonsocket Rubber Co. at the time of the absorption of the latter by the United States Rubber Co. All these accounts did not prove to be collectible, and it is understood that the stockholders of the Woonsocket company will be assessed \$10 a share to make good a deficit of \$170,000.

ADVANCE IN LEATHER BELTING.

At a meeting of the Leather Belting Manufacturers' Association in New York, on May 3, it was decided to advance prices not less than 15 per cent., by revising discounts. The reason given was the continued high cost of hides and leather and the general advance in other materials entering into the manufacture. The last general advance took effect on April 22, 1895, when prices were raised 20 per cent., the rate of discount remaining the same. Before the meeting last month a circular letter was sent to the various belting manufacturers, asking an opinion as to the best method of advancing the prices of belts. Eleven answers were received from manufacturers who favored a rise in the prices themselves; ten answers recommended that the discounts be lowered, and sixteen manufacturers refrained from expressing an opinion. Nine firms to which circulars were addressed failed to respond to them.

A GROWING TRADE IN TENNIS GOODS.

THE demand for tennis, yachting, and gymnasium shoes is understood to have been very satisfactory of late. The volume of orders received by the United States Rubber Co. is reported to be 25 to 30 per cent. more than for last season. The demand has been general throughout all lines of these goods, the bulk of the orders coming from the east and southwest. The sales in the south are due largely to the demand there for a cheap

light article of footwear for summer. The export business in tennis goods has been increasing for some time, and is now stated to be more than double what it was two years ago.

The list of styles and prices of tennis goods issued by the United States Rubber Co. for the 1899 trade differs in no respect from that of last year, except in regard to their "Outing" shoes, which are offered now for the third season. These are now made only in black and brown duck, the white goods having been dropped from the list. Besides, they are now made only in oxfords, instead of oxfords and balmorals, as formerly. There has also been a reduction in price on "Outing" goods.

NEW RUBBER STORE AT HAVERHILL.

A WHOLESALE and retail rubber business has been opened at Haverhill, Mass., under the style of the Haverhill Rubber Co., at No. 28 Washington street. A very complete line of clothing, boots and shoes, mechanical goods, and sundries is kept in stock. The manager in charge is L. Edwin Dawes, who is well known to the trade, and already a good business is reported, with excellent prospects for its growth. The fittings are of solid mahogany and plate glass, and the store is spoken of as being unusually attractive in appearance.

THE PROPOSED BICYCLE TRUST.

NEGOTIATIONS are still in progress for the formation of the American Bicycle Co., by a combination of the leading manufacturers, though no details have been made public by A. G. Spalding, who is heading the movement. A charter has been obtained in New Jersey, with \$80,000,000 capital authorized, and it is stated that options are held on some 110 concerns, including bicycle manufacturers, makers of parts, tubing, etc. On May 10 the International Vehicle and Manufacturing Co. was incorporated in New Jersey, with \$82,000 capital and privilege to increase to \$50,000,000, which was reported to be the first step toward the formation of an opposition "trust," headed by R. Lindsay Coleman, of the Western Wheel Works. It was reported later that the differences between this concern and the promoters headed by Mr. Spalding had been removed; also, that efforts were being made to secure an extension until August 1 of options given originally until June 1.

GOOD ORDER FOR BELTING.

DURING the twelve months that the Diamond Rubber Co. (Akron, Ohio) have been run by the new owners and managers the results have far exceeded the expectations of the parties interested. Their success in obtaining the contract from the Armour Co. of Chicago for the belting for "Elevator D," and the successful manner in which they handled this large contract, proves that they are in the same class as any of the older companies making these goods. This one order called for sixteen rolls of 26 inch 6-ply belting, 375 feet each, and two rolls of 40 inch 4-ply, 707 feet each, all the belting to be delivered and put on the pulleys and thoroughly tested within a specified time. They handled this great weight of belting, amounting to 47,000 pounds, without a hitch and to the entire satisfaction of the buyers. This is only a sample of the large deals they are constantly handling with marked success.

THE TIRE SUIT NOT YET DECIDED.

A DECISION has not yet been rendered in the case of Theodore A. Dodge *v.* F. H. Porter *et al.* [The Reading Tire Manufacturing Co.], based upon an alleged infringement of the Tillinghast tire patent, which was argued before the United

States circuit court in Boston on December 31, 1898. A decision in favor of Colonel Dodge, the owner of the patent, would entitle him to royalties not only on all single tube bicycle tires manufactured since the issue of the patent—May 23, 1893—but also on pneumatic automobile and carriage tires.

MR. ROBERT B. BAIRD.

THE subject of this sketch is perhaps as well known among rubber manufacturers as any young man in the trade. He was born in Lockhaven, Pa., was educated in the public schools, and, after the usual vicissitudes incident to the life of a country boy in working on the farm and in a village store, he came to New York and found employment with Charles A. Cheever,



president of The Okonite Co., as their bookkeeper. Later, through the influence of the late Edward Simpson, of the firm of Simpson & Beers, who took a decided interest in the young man, he became connected with the New York and Boston Rubber Co., and was their secretary in liquidation. After this liquidation he went

with the president of that company, David Mitchell, into the real estate business, and followed that and building for some seven years. He next became connected with the New York Commercial Co., and began to visit rubber manufacturers in and about New York.

In July, 1896, George A. Alden & Co., of Boston, secured Mr. Baird from their New York correspondents to attend to the rubber trade in New England and Canada. On May 1 last he left the Alden house, and now represents Otto G. Mayer & Co., in crude rubber, and Loewenthal & Morgans in reclaimed rubber. During the years of his experience in crude rubber, Mr. Baird has been a close student, not only of the many grades of rubber that appear in the American market, but of the individual wants of his customers. He is an indefatigable worker, always good humored, and knows his business thoroughly. He has taken the offices at No. 67 Chauncey street, Boston, where he is to be found when not visiting the trade.

A MACKINTOSH TRADE ASSOCIATION.

THE mackintosh manufacturers have entered into a word-of-honor agreement looking to the adoption of a minimum selling price on each of certain grades of garments and the correction of certain abuses which have grown up in the trade, which is confidently expected to have a beneficial effect. The advance made is a very moderate one, but the intended effect will extend further than the mere question of prices. "It will remove the premium on skimping in the make-up of garments," is the way one member of the trade puts it. "If a manufacturer is going to sell an article at a dollar, and no less, it will be to his interest to make the article worth a dollar, for if he doesn't, some competitor may offer a better article for the same money.

Hitherto salesmanship in the mackintosh line has consisted mainly in getting orders at a lower price than any competitor charged; now, when the same price is charged all around, the buyer will look to it that the quality is the best that can be had for the money, which will put the selling of mackintoshes on a better footing."

The agreement referred to was reached at a series of meetings held by the manufacturers, early in May, at the Hotel Touraine, in Boston, and it is understood to have been signed by all the concerns in the trade, including proofing houses. The Hon. L. D. Apsley, president of the Apsley Rubber Co. (Hudson, Mass.), is president of the association which has been formed, and A. L. Lindsay, of the Stoughton Rubber Co. (Stoughton, Mass.), is treasurer.

The following list of the parties to the agreement is not official, but is believed to be accurate: American Rubber Co., Clifton Rubber Manufacturing Co., Boston Gossamer Rubber Manufacturing Co., The W. H. Conant Gossamer Rubber Co., The Conant Rubber Co., Union Rubber Co., Coöperative Rubber Co., Columbia Rubber Co., Norfolk Rubber Co., Standard Rubber Co., Monarch Rubber Co., Plymouth Rubber Co., Stoughton Rubber Co., Harvard Rubber Manufacturing Co., Apsley Rubber Co., Metropolitan Rubber Co., Goodyear's India Rubber Glove Manufacturing Co., National India Rubber Co., Hodgman Rubber Co., Cleveland Rubber Co., Chicago Rubber Clothing Co., La Crosse Rubber Mills Co.

It is understood that the pronounced success of the association in the druggists' sundries trade, the first annual meeting of which was held recently in New York city, has afforded not a little encouragement to the mackintosh trade in forming an association on similar lines.

NEW INCORPORATIONS.

THE Diamond Rubber Co. (Akron, Ohio), April 27, under Ohio laws; capital, \$600,000. This a change in form, of an old company, from an Illinois corporation, which has been made on account of the greater convenience in operating under an Ohio charter. The Diamond company took out articles of incorporation in Illinois in December, 1897, increasing their capital from \$50,000 to \$300,000. They have now increased the amount to \$600,000, partly by means of stock dividends though additional new capital has been put in to provide for new buildings. A deed has been filed at Akron, transferring title from the Illinois to the Ohio corporation.

=The Boston Woven Hose and Rubber Co., under Maine laws, to manufacture hose and tires; capital, \$1,200,000. This is a reorganization of the company of the same name, incorporated in Massachusetts, which made an assignment on June 16, 1898. The assets were sold on April 28 last, to parties understood to represent the old stockholders, and who have paid the creditors 57½ per cent. on the face of their claims, in full settlement. President: W. L. Symonds, Lynn, Mass.; treasurer: H. P. Burrill, same place.

=The Manufactured Rubber Co., under New Jersey laws, May 11, to do a general rubber business; capital authorized, \$6,000,000, divided into 20,000 cumulative 8 per cent. preferred shares of \$50, and 100,000 common shares of \$50. Incorporators: Josiah S. Dubois, William J. Jackson, A. Thompson Dukes, and Clayton E. Platt, all of whom give Camden, N. J., as their postoffice address. A board of directors was chosen on May 16, consisting of W. W. Gibbs (president), George Philler, (vice president), Clayton E. Platt (secretary and treasurer), Samuel R. Shipley, Herbert Lloyd, and W. E. Sharps, all of Philadelphia; J. Appleton, New Jersey. President Gibbs has issued a circular to stockholders, in which he estimates the

possibilities of the company as follows: Sale of 4,600,000 pounds of manufactured rubber at 25 cents per pound, \$1,150,000; cost of same at 8 cents, \$368,000; profit, \$782,000, which would give 8 per cent. on preferred stock, and thereafter 12½ per cent. on both classes of stock. The company have acquired the patents controlled by the Artificial Rubber Co., the incorporation of which, in New Jersey, with \$1,000,000 capital, was reported in THE INDIA RUBBER WORLD of March 1. The shares of the new company have been listed on the Philadelphia Stock Exchange.

=Canton Hard Rubber Co. (Canton, Ohio), May 17, under Ohio laws; capital, \$50,000. Incorporators: F. Keplinger, Samuel Ake, C. W. Keplinger, G. W. Ake, all of Canton, and others.

=The New Process Rubber Co., under West Virginia laws, May 5; capital, \$1,000,000. Incorporators: G. A. Parsons, Wilmington, Mass.; J. W. Smith, Lynn, Mass.; C. H. Smith and F. R. Whitworth, Boston.

=The A. R. Pharo Rubber Co., (Rahway, N. J.), under New Jersey laws, May 17; capital, \$25,000. To make rubber, metal, and celluloid novelties. Incorporators: Allen R. Pharo, Edgar Marshall, and R. R. Subridge.

MR. S. M. EVANS.

THE illustration accompanying this is a very good likeness of a young man who has been exceedingly active and successful in the introduction of the sublimed lead manufactured by the Picher Lead Co. The writer does not know whether Mr. Evans was born in Missouri or Massachusetts. He has not been able to find out what clubs he belongs to, or what his special individual fads are. About all that the subject of this sketch seems to be insistent upon emphasizing is that he has the best sublimed lead in the world, and is



out to sell it, which he does. It is not to be supposed from the foregoing remarks that there is any dark chapter in the young man's career which leads him to avoid reference to his past life and habits, but he is so full of lead—not in the military sense, however—that his mind dwells on little else when he comes in contact with the rubber trade.

TRADE NEWS NOTES.

THE Victor Rubber Tire Co. (Springfield, Ohio) have obtained a patent in England for their method of brazing, with the help of coupling sleeves, the longitudinal wires used for holding in place their solid rubber vehicle tires.

=Frank W. Harrington, who has a wide acquaintance with the electrical field, has taken a position with the John A. Roebbing's Sons Co. (Trenton, N. Y.), to represent their rubber covered wire department in New York state and New England. His headquarters will be at the company's New York office, No. 117 Liberty street.

=George W. Perry & Co. (St. Louis), early in the month, entertained their employes at a banquet at the Mercantile Club, in celebration of the completion of their twelfth year in the rubber goods jobbing trade. Covers were laid for twenty-two. Prizes were awarded for the largest sales made during the year.

=The Seamless Rubber Co. (New Haven, Conn.) have obtained a building permit for a brick addition to their factory, 40 x 100 feet, three and four stories high.

=The officers of the Beacon Falls Rubber Shoe Co. (Beacon Falls, Conn.) are: George A. Lewis, president; A. D. Warner, vice president and general manager; Tracy S. Lewis, secretary and treasurer.

=The Chicago Electric Wire Co. (Wilmington, Del.) have been making some large deliveries of garden hose. They began on March 8 to ship an order of 1,000,000 feet to W. H. Salisbury & Co., of Chicago, in instalments of 100,000 feet. Other large orders have been received, and Manager Cobb is reported to be preparing for the introduction of more machinery.

=E. H. Paine, director of sales of the United States Rubber Co., and Chester J. Pike, selling agent, both made visits to the West during the past month.

=The Mishawaka Felt Boot and Shoe Co. (Mishawaka, Ind.) are using the Lycoming "overs" in combination with their boots.

=H. L. Sherman, who covers the Maine trade for the Enterprise Rubber Co. (Boston), has opened an office at No. 478 Congress street, Portland.

=A cable testing set supplied with the new Willyoung d'Arsoval galvanometer has lately been supplied to the Safety Insulated Wire and Cable Co. (New York), by James G. Biddle, Drexel building, Philadelphia.

=William J. Kelly is again visiting the rubber trade in New England in the interests of George A. Alden & Co. (Boston), and is finding that his old friends have not by any means forgotten him.

=In describing the unique trade-mark of the Victor Rubber Co. (Springfield, Ohio) in the last issue of THE INDIA RUBBER WORLD, the name was inadvertently given as the "Victor Rubber Tire Co.," which was an error. While both concerns are managed from the same office, their business is kept strictly apart. The Victor Rubber Tire Co., for applying rubber tires to vehicle wheels, were incorporated July 26, 1895, with \$10,000 capital, increased January 8, 1898, to \$50,000. The Victor Rubber Co., for the manufacture of all kinds of rubber goods, were incorporated August 29, 1898, with \$100,000 capital.

=The Savoy Rubber Co. (Pawtucket, R. I.) is the name of a new concern engaged in manufacturing cements.

=Bids were opened at the Philadelphia depot of the quartermaster's department on May 5, for 5000 pairs of rubber boots for the army, the lowest being that of John Wanamaker, at \$2.27 73-100 per pair.

=Mr. S. H. Robinson has not been connected with the Newton Rubber Works since April 12.

=The Fisk Rubber Co. (Chicopee Falls, Mass.) are running double time, in order to fill their orders on tires.

=F. W. Whitcher & Co. (Boston), whose rubber heels are being so successfully marketed all over the United States, have just brought out a new type of heel which is said to be a winner.

=The Chapman McLean Co. (New York) are reported to have discontinued the manufacture of mechanical rubber goods, and will confine their efforts hereafter to dress shields.

=Mr. E. E. Buckleton, general manager of the Joseph Stokes Rubber Co. (Trenton, N. J.), has just returned from a very successful western trip.

=Mr. B. T. Morrison, who has been appointed general superintendent of the International Automobile and Vehicle Tire Co., is remarkably well equipped for the position. He has been long identified with the rubber business, and is an expert manufacturer and excellent organizer.

=Mr. Harold Van der Linde, the chemist of the Gutta-Percha and Rubber Manufacturing Co. of Toronto, Limited, is making a tour of Europe, on a vacation that will consume some three months.

=The Funk Boiler Works (La Crosse, Wis.) have sent to THE INDIA RUBBER WORLD a photograph of a new type of churn for use in mackintosh work, which embodies novel features of value.

=The Trenton Rubber Manufacturing Co. (Trenton, N. J.) are largely adding to their plant, both in buildings and in new and modern mixing mills.

=Mr. E. A. Hunt, who has charge of the purchase of crude rubber supplies for the United States Rubber Co., has become one of the best informed men in the trade in regard to the extent of stocks here and abroad and the conditions affecting prices.

=The office of Loewenthal & Morgenstern, rubber reclaimers, will be located hereafter at their works, Nos. 154-155 Provost street, Jersey City, N. J.

=The incorporators of the Pennsylvania Rubber Co. (Erie, Pa.), mentioned in the last INDIA RUBBER WORLD as having purchased the plant of the Keystone Rubber Co., are Herbert Du Puy, Frank A. Wilcox, H. A. Middleton, Edward C. Moore, and John R. McDonald. Mr. Middleton is a well-known rubber superintendent, having lately resigned from that office in connection with The India Rubber Co. (Akron, Ohio.) Mr. Du Puy is a member of the firm of Anderson, Du Puy & Co., of Pittsburgh, Pa., and has been indirectly connected with the rubber business for years. Mr. Moore is treasurer of the Erie City Iron Works, at Erie. The new company will manufacture tires and mechanical rubber goods generally.

=The manufacturers of Fenton's artificial India-rubber have sent an exceedingly good sample of their gum to THE INDIA RUBBER WORLD office, in connection with which they write: "By the aid of careful analysis of natural Caoutchouc, synthetic chemistry, and the advice of eminent practical rubber manufacturers, we have produced a substitute that actually vulcanizes by the same chemicals and methods, whether alone or when incorporated with natural rubber, and is usable in all of the usual mixtures."

=The Sterling Rubber Co. (Boston) are doing an exceedingly good business this spring on special styles of sponge bags and bathing caps. With their new patterns they seem to have a great hold on the New England trade.

=The excellent advertising matter sent out by the Mechanical Fabric Co. (Providence, R. I.) is the work of Mr. Arthur E. Friswell, who for years past has been in charge of the tire department.

=The Victor Rubber Tire Co. report the shipment from their Springfield (Ohio) branch, during April of more than 3000 rubber tired wheels.

=The stockholders of the American Rubber Co. (Boston), at the annual meeting early in May, elected the following directors: William R. Dupee, William H. Hill, Harry E. Converse, and Samuel P. Colt. The officers are: William R. Dupee, president; Charles L. Johnson, treasurer; George P. Eustis, clerk.

=F. D. Balderston, sales agent for tennis goods for the United States Rubber Co. (Boston), made a successful southern trip during the first half of May.

=The National India Rubber Co. (Bristol, R. I.) made a shipment, about the first of the month, of 10,000 ponchos, for the United States army.

=The Boston Rubber Shoe Co. resumed work at their factories in all departments, on May 5, after a shutdown of three weeks.

=The Toronto Rubber Shoe Manufacturing Co., Limited, it is understood, have fixed upon Port Dalhousie as the site for rebuilding their factory.

=George A. Alden & Co., dealers in India-rubber, Gutta-percha, and shellac, who for many years had been located at No. 87 Summer street, Boston, removed during the month to the Winthrop building, No. 150 Summer street. They will occupy rooms No. 301 to 305 in the new building.

=The Selangor Rubber Co., Limited, have been registered in Scotland, with £20,000 capital, to acquire a coffee and rubber estate at Selangor, Straits Settlements.

=George H. Quincy, selling agent for the Providence Rubber Shoe Co., with headquarters in Boston, made a visit to leading western centers during the month.

=Mr. Frederick S. Minott has succeeded to the position of secretary to the Goodyear Rubber Co. (New York), which had been filled by his father, the late Joseph A. Minott, from the incorporation of the company, in 1863. Mr. Minott has been connected with the rubber business for about ten years, a large part of which time was spent in acquiring a practical knowledge of the business of manufacturing goods, at the works of the National India Rubber Co. (Bristol, R. I.). Two years ago he took a position in the Goodyear company's office, No. 787 Broadway, New York, as assistant to his father, with the result that he is fitted admirably to become his successor.

=The Metallic Rubber Tire Co., incorporated March 14, with \$100,000 capital, inform THE INDIA RUBBER WORLD of an increase to \$200,000. They have opened a salesroom at No. 210 Center street, New York, for their new tread for pneumatic tires, described in the last issue of this journal. These treads are now on sale with leading retailers of bicycle sundries, and an expert is in readiness at the Center street store to cement them on properly.

=The Boston News Bureau of May 22 reported: "At the time of the formation of the Rubber Goods Manufacturing Co., Mr. Charles R. Flint offered \$165 per share for the stock control of the Boston Belting Co. The stock was at this time selling by public auction at \$190 per share, and his offer of \$165 was refused. He made another offer of \$175 per share, which was also refused. The stock of the company, on which 8 per cent. dividends have been paid for years, subsequently sold by auction at \$200."

=The shareholders of the Alpha Rubber Co. (Montreal, Quebec) have decided to wind up their business and L. E. A. Cholette has been appointed liquidator.

=John J. Kearns has resigned as foreman in the rubber department of the Overman Wheel Co. (Chicopee Falls, Mass.), and accepted a position at the Akron Rubber Works.

=It appears from the annual report of the United States Rubber Co. published on another page that the surplus applicable to dividends on the common stock was 3.01 per cent. as compared with .09 per cent. for the year previous. Following the appearance of the above reports Rubber common declined on the New York Stock Exchange, evidently because the prospects for a dividend are less promising than had been expected. The trading amounted to 13,785 shares on May 18, opening at 47, declining to 43½, and closing at 44½ bid and 45 asked. The trading in Rubber common for the week amounted to 34,545 shares, opening at 49¼ and closing at 46.

=The factories of the Lycoming Rubber Co. (Williamsport, Pa.) started up on last season's work on May 5 and ran continuously to March 31, 1899. They are prepared for a larger production this season.

INDIVIDUAL MENTION.

MR. WALTER S. BALLOU, president of The Joseph Banigan Rubber Co., instead of going up into the northern wilds for his fishing, as many do, takes every Saturday, after the first of April, when business permits, and has developed a broader knowledge of game fish in and about Rhode Island, and more success in landing them than any other man within the writer's ken. Further than this, these weekly outings have been helpful in furnishing him with the most robust health.

=Mr. George F. Hodgman, president Hodgman Rubber Co., has gone on a two weeks vacation, which is a rare thing for him to do, but a very wise move, for the magnificent record that the Hodgman company have made of late means the hardest sort of work, both physical and intellectual, and calls for the recuperation that can only be gotten from occasional absolute change of scene.

=Mr. Edward F. Bragg, well known as the manager of the Automatic Rubber Mixer Co. (Boston), while out in Cambridgeport recently, was assaulted by three men who jammed his hat over his eyes and attempted to make free with the contents of his pockets. Mr. Bragg, having a definite prejudice against both of these freedoms, struck out with a series of left-handed hooks, upper cuts, and right-handed smashes, that so demoralized his assailants that they took to their heels, with the victor in pursuit. After chasing them for several blocks, he fortunately spied an officer, and all three were gathered in, and are now enjoying a six months' vacation in one of Boston's beautiful suburban retreats.

=Mr. R. W. Rhodes, who owns a successful rubber manufacturing business in Long Island City, is on a visit to Europe.

=Mr. Joseph Davol, president of the Davol Rubber Co. (Providence, R. I.), being somewhat wearied with the winter's business strain, is taking absolute rest in California at the present time.

=Mr. Hermann Reimers, of Reimers & Meyer (New York), will be in England by the time this paper goes to press. Indeed, it seems as if all of the prominent importers of crude rubber were converging toward London.

=Mr. Charles R. Flint, of New York, is reported to have contracted for the construction of a steam yacht, at Nyack, N. Y., which is designed to be the fastest in the world. It is to be 130 feet long, to be of 4000 horse power, and to be delivered by April 15, 1900. Experts who have seen the plans estimate that a speed of fifty miles an hour will be possible.

=Mr. E. Rowland Phillips, vice president and superintendent of the American Electrical Works (Providence, R. I.), and son of the general manager, Eugene F. Phillips, was elected recently to the city council of Providence, by a good majority.

=Mr. Leonard F. Requa, general manager of the Safety Insulated Wire and Cable Co., and Mr. George T. Manson, general superintendent of the Okonite Co., Limited, were active last month on committee work connected with the Electrical Exhibition held in New York city.

=Mr. Adelbert H. Alden, vice president of the New York Commercial Co., sailed on the *Lucania* on May 6 for Europe. His place in the New York office will be taken meanwhile by his Boston assistant, Mr. Arthur W. Stedman.

=The rubber trade will regret to learn that Mr. Robert D. Evans has been quite ill for a month past, the result of an accident to his knee which occurred during his horseback exercise,

=Mr. H. C. Burton, of Parker, Stearns & Sutton (New York), is away for a two weeks' vacation in New Hampshire.

=Mrs. K. W. Hayward, widow of J. Francis Hayward, has given the Quincy City Hospital \$5000 to establish the "J. Francis Hayward memorial bed." Mr. Hayward, at the time of his death was a resident of Quincy, Mass., and was treasurer of the Cable Rubber Co. (Boston). Mrs. Hayward's bequest swells the endowment fund of the hospital to \$45,000.

=Mr. John D. Carberry, of the general offices of the United States Rubber Co. (New York), is an enthusiastic philatelist. He is a member of the executive board of the philatelic section of the Brooklyn Institute of Arts and Sciences, and curator of the Institute collection of stamps. Through his efforts some valuable sets of stamps issued by various countries have been obtained for the Institute from their postal authorities.

OXOLIN AND PERCHOID.

A RECENT newspaper report regarding oxolin was to the effect that: "The German government sent two chemists to England, who reported that the material could be utilized in making cables and, in fact, for all purposes for which rubber is used. Upon the strength of this report a large factory for manufacturing the goods will be established at Wittenberg, Germany."

The Rt. Rev. H. Martyn Hart, of Denver, Col., who is interested in this material, informs THE INDIA RUBBER WORLD that "it was not the German government but some German capitalists who sent over to the London works two chemists and an engineer. They examined them a considerable time and submitted perchoid (oxolin) to every conceivable test. Upon their report the Leipsic Bank found the money, and they have built works at Wittenberg, not far from Leipsic."

Dean Hart adds that the general statement that all rubber substitutes made from the oxidation of oil fail because some "fatty substance" remains, does not apply to perchoid. "I have many specimens six years old," he writes, "which are precisely the same to-day as they were when they were produced. Perchoid is perfectly oxidized vegetable oil, and frequent experiments have convinced me that nothing will in any way affect it, from water to fuming acid; therefore, it never loses the pliability, or in any way changes its condition." Dean Hart refers to a report, in THE INDIA RUBBER WORLD, of an expert who had examined specimens of perchoid that could be scratched with the thumb nail. "When I tell you that carriage brakes are now made of it," our correspondent goes on, "which the expert could neither scratch with his nail nor cut with his knife, you will understand that he does not know everything." The Rev. Mr. Hart says that on account of not being able to leave his clerical work, he has been unable yet to organize a company in America.

The Oxylin-Werke, Actien-Gesellschaft (Leipzig), whose works are at Piesteritz, near Wittenberg, write that they know nothing of the reported visit of the German chemists to England. They say, also, that the German and Austrian cable companies are trying their material for the manufacture of cables, upon instructions given by the English oxolin syndicate.

The British and Foreign Oxolin Co., Limited, whose works at Mitcham, Surrey, are reported to be producing good quantities of printers' blankets and also cart and wagon covers. They have acquired new London offices and stores at 19, Newgate street, E. C., where they occupy six floors.

ATTENTION is called to the advertisement on page xviii of a new book on "Crude Rubber and Compounding Ingredients,"

REVIEW OF THE CRUDE RUBBER MARKET.

THE tendency of prices throughout the whole of the past month has been slightly downward, with a net result of a decline of about 2 cents. This tendency has been less pronounced, however, than might have been expected in view of the quiet condition of business during the month. A statistical showing appended will repay study, as showing the comparative position of rubber stocks for three years past. As intimated already in these columns, a similar condition in former years would have led to a marked decline in prices; the fact that prices are now holding their own so well is proof of an important gain in demand. The situation affects not merely Pará grades, but all others coming into the market, while even reclaimed rubber is all the while becoming dearer.

The latest quotations in the New York market are:

PARÁ.		Accra strips.....	
Islands, fine, new.....	97 @98	Lagos buttons.....	64 @65
Islands, fine, old.....	none here	Lagos strips.....	66 @67
Islands, coarse, new.....	65 @66	Liberian flake.....	@
Islands, coarse, old.....	none here	Madagascar, pinky.....	82 @83
Upriver, fine, new.....	99 @100	Madagascar, black....	none here
Upriver, fine, old.....	102 @103	CENTRALS.	
Upriver, coarse, new.....	80 @82	Esmeralda, sausage....	74 @75
Upriver, coarse, old....	none here	Guayaquil, strip.....	58 @60
Caucho (Peruvian) sheet	66 @67	Nicaragua, scrap....	72 @73
Caucho (Peruvian) strip	none imported now.	Mangabeira, sheet.....	61 @63
Caucho (Peruvian) ball	77 @78	EAST INDIAN.	
AFRICAN.		Assam.....	84
Tongues.....	62 @63	Borneo.....	40 @54
Sierra Leone.....	54 @82	GUTTA-PERCHA.	
Benguella.....	70 @71	Fine grade.....	1.50
Congo ball.....	64 @65	Medium.....	1.30
Cameroon ball.....	62 @63	Hard white.....	1.00
Flake and lumps.....	46 @47	Lower sorts.....	50
Accra flake.....	24 @25	Balata.....	
Accra buttons.....	64 @65		

Late Pará cables quote:

	Per Kilo.		Per Kilo.
Upriver, fine.....	108600	Islands, fine.....	98400
Upriver, coarse.....	78800	Islands, coarse.....	58100
Exchange 7½ d.			

STATISTICS OF PARA RUBBER.

FOLLOWING is a comparison for corresponding periods of three years, the figures denoting tons of 1000 kilograms:

NEW YORK.					
	Fine and Medium.	Coarse.	Total. 1899.	Total. 1898.	Total. 1897.
Stocks, March 31.....	405	87 =	492	472	514
Arrivals, April.....	501	261 =	762	516	724
Aggregating.....	906	348 =	1254	988	1238
Deliveries, April.....	475	243 =	718	666	976
Stocks, April 30.....	431	105 =	538	322	262

PARÁ.			ENGLAND.		
1899.	1898.	1897.	1899.	1898.	1897.
Stock, March 31.....	1230	385	922	900	995
Arrivals, April.....	1520	1240	1380	685	715
Aggregating.....	3750	1625	2302	1585	1710
Deliveries, April.....	2160	1455	1912	700	800
Stocks, April 30..	570	170	390	885	910

1899.	1898.	1897.
World's supply, April 30 (excluding Caucho)...	3106	3543
Pará receipts, July 1 to April 30.....	22,885	21,365
Afloat from Pará to United States, April 30...	106	
Afloat from Pará to Europe, April 30.....	1009	

NEW YORK RUBBER PRICES FOR APRIL.

	1899.	1898.	1897.
Upriver fine.....	1.00 to 1.03	92½ to 95	84 to 88
Upriver coarse.....	85 " 88	74 " 75	54 " 58
Islands fine.....	1.00 " 1.03	91½ " 93	82 " 84
Islands coarse.....	96 " 73	62½ " 64	45 " 48
Cametá coarse.....	72 " 74	68 " 70	55½ " 57

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York) advises us as follows:

"During May the money market has ruled on the whole fairly steady, though there have been occasional spurts up to 6 per cent. on call loans, but there has been in general a good demand for commercial paper at reasonable rates, the best rubber names single and double ruling at 4 @ 4½ per cent., and others not so well known 5 @ 6 per cent."

PRICES DECLINING AT ANTWERP.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Our sales to-day showed only a slight competition. The buying was chiefly for account of European manufacturers. Prices show on an average a decline from 5 to 20 centimes. For a few parcels a trifle has been paid above valuations. Sixty-five tons remain unsold. The prices for the principal lots were:

Lots.	Kilos.	Description.	Valuations.	Paid.
247	5,153	Red Kassai, I ..	f. 10 57½	f. 10 37½
251	2,928	Red Kassai, II ..	10.15	10.07½
253	2,699	Upper Congo ..	9.40	9 47½
258	2,740	Lower Congo ..	6.25	6.17½
263	2,358	Lower Congo, black...	7.75	7.77½
266	9,301	Kassai red, II ..	10.	9.85
267	6,315	Kassai red, III ..	9.25	9.27½
268	5,000	Equateur.....	10.20	10.15
271	2,055	Upper Congo.....	10.25	9.95
272	11,386	Upper Congo.....	9.25	9.30
257	1,370	Lopori ..	10.70	10.70
274	10,222	Aruwimi ..	9.80	9.60
278	2,057	Sankuru.....	9.20	9.20
279	3,769	Mongalla ..	9.20	9.20
280	1,900	Mongalla.....	10.20	9.87½
281	3,372	Mongalla.....	8 90	8.90
286	10,000	Uellé.....	10.	9.95

The steamer *Bruxellesville* has arrived from the Congo with about 432 tons, including the following grades: Equateur, 30; red Thimbles, 62; black Thimbles, 7; Kassai, red and black, 70; Lake Leopold, II, 19; Upper Congo and Aruwimi, 63; Uellé, 15; Bangui, 6; Kwilu, 2; Bussira, 14; Mongalla, 130; sundries, 12.

SOCIÉTÉ COLONIALE ANVERSOISE.

Antwerp, April 28, 1899.

THE ROTTERDAM MARKET.

A REPORT from Rotterdam early in the month mentioned an absence of stocks of either sheet or block Balata in that market, for which reason it was predicted that the next shipment to arrive would bring good prices. "Gutta-percha is firm. The proposition to construct a cable across the Pacific prompts the question where the necessary Gutta-percha is to come from. Whatever may have been written about substitutes for electrical insulation, and especially for submarine work, nothing has yet been found to take the place of Gutta-percha in practice. Taking into consideration that about 2400 tons of Gutta-percha would be required for an 8000 mile Pacific cable, and that the stocks in the principal market (London) amount to only about 1500 tons, mostly in small lots, it seems that an enormous rise in prices is unavoidable."

IMPORTS FROM PARA AT NEW YORK.

April 29.—By the steamer *Bernard* from Manáos and Pará :

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
Reimers & Meyer.....	141,100	23,300	185,900	105,400=	455,700
Crude Rubber Co.....	157,400	17,900	37,500	1,000=	213,800
New York Commercial Co	94,600	7,200	33,300	8,600=	143,700
Lawrence Johnson & Co.	88,000	19,100	42,600	.....=	149,700
Otto G. Mayer & Co.....	51,200	9,700	19,600	35,600=	116,100
Albert T. Morse & Co....	15,600	16,100	27,400	7,600=	66,700
Boston Rubber Shoe Co..	40,400	2,800	17,200	3,600=	64,000
American Wringer Co....	.....	.....	20,100	.....=	20,100
G. Amsinck & Co.....	11,100	2,100	4,600	.....=	17,800
William Wright & Co.....	.....	.....	12,200	.....=	12,200
Hagemeyer & Brunn....	9,500	.....	800	.....=	10,300
Peerless Rubber Mfg. Co.	.....	.....	2,500	.....=	2,500
Total.....	608,900	98,200	391,500	174,000=	1,272,600

May 5.—By the steamer *Sobralense*, from Manáos and Pará :

Lawrence Johnson & Co.	24,100	6,900	10,800	12,900=	54,700
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Crude Rubber Co.....	28,200	7,100	14,000	2,900=	52,200
New York Commercial Co.	17,200	2,200	14,400=	33,800
Reimers & Meyer.....	.....	.....	39,400	.....=	39,400
William Wright & Co....	.....	.....	.....	25,000=	25,000
Edmund Reeks & Co....	8,900	3,000	8,100	.....=	20,000
G. Amsinck & Co.....	7,200	2,100	1,000	.....=	10,300
Peerless Rubber Mfg. Co.	.....	.....	11,400	.....=	11,400
American Wringer Co....	.....	.....	8,000	.....=	8,000
Hagemeyer & Brunn....	1,700	.....	3,500	.....=	5,200

Total..... 87,300 21,300 110,600 40,800= 260,000

May 16.—By the steamer *Cearense* from Pará :

New York Commercial Co.	67,400	12,800	32,700	2,400=	115,300
Crude Rubber Co.....	44,300	5,700	19,100	16,200=	85,300
Albert T. Morse & Co....	21,200	6,100	28,500	.....=	55,800
William Wright & Co....	18,200	5,500	13,700	12,500=	49,900
Reimers & Meyer.....	17,100	2,200	8,000	.....=	21,400
Lawrence Johnson & Co..	7,900	1,100	7,600	.....=	16,600

Total..... 176,100 33,400 103,700 31,100= 344,300

[NOTE.—The steamer *Hildebrand* sailed from Manáos and Pará sailed from Pará on May 18 with 265 tons of rubber for New York.]

PARA RUBBER VIA EUROPE.

APRIL 26.—By the *Majestic*—Liverpool :

George A. Alden & Co.—(Fine)	5,400
Crude Rubber Co. (Fine)	6,500

APRIL 29.—By the *Lucania*—Liverpool :

William Wright & Co. (Cauchó)	2,700
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MAY 13.—By the *Campania*—Liverpool :

Albert T. Morse & Co. (Cauchó)	27,600
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OTHER ARRIVALS AT NEW YORK.

CENTRALS.

APRIL 25.—By the *M. L. Villaverde*—Mexico:

H. Marquardt & Co.....	1,500
Graham Hineckley & Co.....	800
J. Mendy.....	700

APRIL 25.—By the *Hudson*—New Orleans:

A. T. Morse & Co.....	2,500
H. W. Peabody & Co.....	500

APRIL 27.—By the *Alliance*—Colon:

Hirzel, Feitman & Co.....	9,641
Landman & Kemp.....	6,445
Roldan & Van Sickle....	4,870
Dumarest & Co.....	4,662
A. Santos & Co.....	4,401
G. Amsinck & Co.....	2,695
D. A. De Lima & Co.....	4,008
Czarnikow, McDougal & Co.	2,239
A. M. Capen Sons.....	496
Jimenez & Kocoblar.....	530
Eggers & Heinlein.....	719
R. F. Cornwall.....	760
Isaac Brandon & Bros....	659

APRIL 27.—By the *Catania*—Colon:

Hirzel, Feitman & Co.....	22,887
G. Amsinck & Co.....	10,330
Dumarest & Co.....	9,952
Roldan & Van Sickle....	9,838
M. Valverde & Co.....	8,818
Isaac Brandon & Bros....	5,676
Kunhardt & Co.....	5,125
Czarnikow, McDougal & Co.	5,000
Piza Nephews & Co.....	4,654
A. Santos & Co.....	2,470
Munoz & Espriella.....	2,430
A. M. Capen Sons.....	2,355
Mecke & Co.....	2,231
Ellinger Brothers.....	1,499
W. R. Grace & Co.....	1,495
Flint, Eddy & Co.....	530
Frame, Alston & Co.....	500
Ascensio & Cassio.....	380

APRIL 28.—By the *Toarmina*—Bahia:

J. H. Rossback & Bros.....	3,600
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APRIL 29.—By the *Lucania*—Liverpool:

Otto G. Mayer & Co.....	4,700
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MAY 1.—By the *Seguranea*—Mexico:

H. Marquardt & Co.....	2,500
E. N. Tibbals.....	2,000
Graham, Hineckley & Co....	1,500
Thebaud Brothers.....	2,000
F. Probst & Co.....	500
E. Steiger & Co.....	200

J. Agostini..... 200 8,400

MAY 1.—By the *Ardanrose*—Belize:

Eggers & Heinlein.....	3,500
Busk & Jevons.....	1,000
For London.....	4,000
Otto G. Mayer & Co.....	200

MAY 2.—By the *Alleghany*—Cartagena:

D. A. De Lima & Co.....	6,500
Kunhardt & Co.....	3,500
Guterman, Rosenfeld & Co.	2,000
Punderford & Co.....	1,500
G. Amsinck & Co.....	600
Flint, Eddy & Co.....	500
J. A. Paul & Co.....	200

MAY 1.—By the *Chalmette*—New Orleans:

Albert T. Morse & Co.....	10,000
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MAY 3.—By the *Macedonia*—Mexico:

W. Loniza & Co.....	2,500
H. Marquardt & Co.....	1,000

MAY 3.—By the *Advance*—Colon:

Flint, Eddy & Co.....	8,879
Crude Rubber Co.....	6,002
Isaac Brandon & Bros....	4,154
Kunhardt & Co.....	3,835
J. Aparicio & Co.....	3,068
G. Amsinck & Co.....	2,313
F. Probst & Co.....	1,487
Mecke & Co.....	1,388
Mosie Brothers.....	1,215
Piza Nephews & Co.....	859

MAY 8.—By the *Bellanoeh*—Bahia:

J. H. Rossback & Bros.....	4,500
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MAY 8.—By the *Vigilancia*—Mexico:

E. Steiger & Co.....	7,500
H. Marquardt & Co.....	2,500
Whitman & Barnes Mfg. Co.	500
Thebaud Brothers.....	200

MAY 8.—By the *Licorno*—Pernambuco:

Allerton D. Hitch.....	10,000
Lawrence Johnson & Co....	3,000
Reimers & Meyer.....	800

MAY 8.—By the *Allat*—Greytown:

Andreas & Co.....	4,500
A. P. Strout.....	3,000
J. H. Lang.....	4,000
Roldan & Van Sickle....	2,500
Kunhardt & Co.....	1,800
Landman & Kemp.....	1,500
Munoz & Espriella.....	1,000
Benton Gayford.....	600
A. D. Straus & Co.....	200
For Antwerp.....	600

MAY 10.—By the *Excellator*—New Orleans:

Albert T. Morse & Co.....	31,000
Ellinger Brothers.....	2,500

MAY 12.—By the *Seneca*—Mexico:

Jose Agostini.....	600
F. Probst & Co.....	200
E. N. Tibbals.....	200

MAY 11.—By the *Financ*—Colon:

Roldan & Van Sickle....	10,541
G. Amsinck & Co.....	5,570
Isaac Brandon & Bros....	4,700
Munoz & Espriella.....	4,360
Crude Rubber Co.....	3,078
Dumarest & Co.....	2,780

D. A. De Lima & Co.....	2,634
A. P. Strout.....	1,753
A. M. Capen Sons.....	1,678
Ascensio & Cassio.....	346

MAY 13.—By the *Campania*—Liverpool:

Reimers & Meyer.....	4,300
William Wright & Co.....	500

MAY 16.—By the *Adirondack*—Cartagena:

D. A. De Lima & Co.....	14,000
Park, Son & Co.....	7,500
Kunhardt & Co.....	5,500
Guterman, Rosenfeld & Co.	1,000
Ricardo Alence.....	2,500
Ellinger Brothers.....	500
Schulz & Ruckgaber.....	400
Roldan & Van Sickle....	200
For Bremen.....	400

MAY 17.—By the *Hudson*—New Orleans:

A. T. Morse & Co.....	9,500
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MAY 20.—By the *Karthago*—Mexico:

Graham, Hineckley & Co....	1,500
H. Marquardt & Co.....	1,000
P. Harmony Nephew & Co....	200

MAY 17.—By the *British Prince*—Santos:

Reimers & Meyer.....	7,500
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MAY 22.—By the *Louisiana*—New Orleans:

A. T. Morse & Co.....	6,500
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MAY 19.—By the *Yucatan*—Mexico:

E. Steiger & Co.....	6,500
E. N. Tibbals.....	1,500
Thebaud Brothers.....	1,500
H. Marquardt & Co.....	2,000
F. Probst & Co.....	2,500
Whitman & Barnes Co.....	500

MAY 23.—By the *Havellius*—Pernambuco:

Thomson & Co.....	7,000
Herbst Bros.....	2,800

MAY 22.—By the *Alliance*—Colon:

A. P. Strout.....	11,712
Isaac Brandon & Bros....	4,719
Hirzel, Feitman & Co.....	4,615
G. Amsinck & Co.....	4,338
A. Santos & Co.....	3,325
Flint, Eddy & Co.....	3,346
W. R. Grace & Co.....	2,662
Dumarest & Co.....	2,108
H. Marquardt & Co.....	2,027
A. M. Capen Son.....	1,898
Beecher & Co.....	983
Pomares & Cushman.....	882
W. Loniza & Co.....	678
Landman & Kemp.....	573
Samper & Co.....	590

MAY 23.—By the *Ardanhu*—Cape Gracias:

Eggers & Heinlein.....	11,000
Samper & Co.....	3,000
Jose Agostini.....	2,000
Pomares & Cushman.....	1,500
Munoz & Espriella.....	1,000
W. R. Grace & Co.....	400
K. Mandell & Co.....	300
T. N. Morgan.....	200
For London.....	200

MAY 23.—By the *Alene*—Greytown:

A. P. Strout.....	6,800
G. Amsinck & Co.....	5,500
Kunhardt & Co.....	5,500

Roldan & Van Sickle	3,000
Guterman, Rosenfeld & Co.	2,000
H. W. Peabody & Co.	3,000
Andreas & Co.	1,500
Stelton & Schofield	1,000
Funderford & Co.	500
Schultz & Ruckhaber	500
Mecke & Co.	160
	27,600

AFRICANS.

APRIL 26.—By the <i>Majestic</i> =Liverpool:	
George A. Alden & Co.	7,600
Crude Rubber Co.	8,000
William Wright & Co.	22,800
Livesey & Co.	12,000
Otto G. Mayer & Co.	1,100
Reimers & Meyer	2,700
	54,000

APRIL 28.—By the <i>Dona Maria</i> =Lisbon:	
Reimers & Meyer	11,200
Otto G. Mayer & Co.	11,200
	22,400

APRIL 28.—By the <i>Palatia</i> =Hamburg:	
Reimers & Meyer	5,500

APRIL 29.—By the <i>Laconia</i> =Liverpool:	
George A. Alden & Co.	33,300
Crude Rubber Co.	31,800
William Wright & Co.	40,000
Livesey & Co.	18,800
Reimers & Meyer	11,100
	183,000

MAY 1.—By the <i>Europe</i> =London:	
Livesey & Co.	5,200

MAY 4.—By the <i>Aurania</i> =Liverpool:	
Reimers & Meyer	22,200
Livesey & Co.	7,300
	29,500

MAY 6.—By the <i>Britannia</i> =Liverpool:	
George A. Alden & Co.	21,600
Crude Rubber Co.	18,500
	40,100

MAY 8.—By the <i>Etruria</i> =Liverpool:	
Reimers & Meyer	9,000
Livesey & Co.	4,900
Knauth, Nash & Kühne	9,900
	23,800

MAY 8.—By the <i>Prætorina</i> =Hamburg:	
George A. Alden & Co.	9,500
Albert T. Morse & Co.	3,500
Reimers & Meyer	11,000
	24,000

MAY 10.—By the <i>Marquette</i> =London:	
Livesey & Co.	5,500

MAY 13.—By the <i>Campania</i> =Liverpool:	
George A. Alden & Co.	5,500
Crude Rubber Co.	5,000
William Wright & Co.	27,500
Livesey & Co.	11,500
Reimers & Meyer	18,800
Otto G. Mayer & Co.	9,500
	74,300

MAY 17.—By the <i>Westernland</i> =Antwerp:	
Albert T. Morse & Co.	25,000
Reimers & Meyer	15,000
Boston Rubber Shoe Co.	18,000
	58,000

MAY 19.—By the *Cymric*=Liverpool:

Reimers & Meyer	22,000
Otto G. Mayer & Co.	8,000
A. T. Morse & Co.	10,000
	40,000

MAY 19.—By the *Patriota*=Hamburg:

Reimers & Meyer	65,000

MAY 22.—By the *Umbria*=Liverpool:

Otto G. Mayer & Co.	11,000
William Wright & Co.	6,000
Reimers & Meyer	5,000
Livesey & Co.	3,000
	25,000

MAY 19.—By the *Oceanum*=Lisbon:

Reimers & Meyer	11,500
Otto G. Mayer & Co.	11,500
	23,000

EAST INDIAN.

APRIL 28.—By the *Palatia*=Hamburg:

Robert Soltau & Co.	7,500

MAY 9.—By the *Bovic*=Liverpool:

Reimers & Meyer	13,000

MAY 15.—By the *Keenore*=Singapore:

George A. Alden & Co.	183,400
Reimers & Meyer	239,000
Windmuller & Roelker (Pontianak) ..	14,500
J. W. Greene & Co.	17,300
Reimers & Meyer	10,000
	464,200

MAY 20.—By the *Moyuna*=Singapore:

George A. Alden & Co.	287,000
Reimers & Meyer	170,000
Reimers & Meyer	7,000
Order Stiven & Co.	30,000
	494,000

GUTTA-PERCHA AND BALATA.

MAY 11.—By the *Brasilia*=Hamburg:

R. Soltau & Co.	36,000

MAY 15.—By the *Mesaba*=London:

Lamb Manufacturing Co.	3,500

MAY 20.—By the *Moyuna*=Singapore:

Reimers & Meyer	2,200

BALATA.

MAY 5.—By the *Grenada*=Trinidad:

Cadenas & Coe.	4,500
Flint, Eddy & Co.	1,500
	6,000

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—APRIL.

Imports:	POUNDS.	VALUE.
India-rubber	2,742,218	\$1,534,711
Gutta-percha	37,461	9,936
Gutta-jelatang .. (Pontianak) ..	1,034,764	37,360
Total	3,814,443	\$1,582,997

Exports:

India-rubber	76,594	\$65,719
Reclaimed rubber	286,560	\$1,593

BOSTON ARRIVALS.

	POUNDS.	VALUE.
MARCH 10.—By the <i>Kansas</i> =Liverpool:		
Reimers & Meyer—Africans ..	8,000	
Livesey & Co.—Africans ..	10,682	
APRIL 1.—By the <i>Herman Winter</i> =New York:		
[From the <i>Friesland</i> , Antwerp, arrived New York, March 28.]—Africans ..	15,631	
APRIL 1.—By the <i>Carinhia</i> =Liverpool:		
Livesey & Co.—Africans ..	17,827	
APRIL 4.—By the <i>Norseman</i> =Liverpool:		
Reimers & Meyer—Africans ..	7,784	
APRIL 5.—By the <i>New England</i> =Liverpool:		
Livesey & Co.—Centrals ..	2,065	
APRIL 7.—By the <i>Dalmatia</i> =Hamburg:		
Livesey & Co.—Africans ..	18,838	
APRIL 7.—By the <i>Michigan</i> =Liverpool:		
Reimers & Meyer—Africans ..	37,167	
[Including 7167 pounds Almeida.]		
APRIL 11.—By the <i>Ottoman</i> =Liverpool:		
Reimers & Meyer—Africans ..	11,224	
APRIL 12.—By the <i>Catalonia</i> =Liverpool:		
Livesey & Co.—Africans ..	13,302	
APRIL 18.—By the <i>Utonia</i> =Liverpool:		
Livesey & Co.—Africans ..	7,941	
APRIL 21.—By the <i>Bay State</i> =Liverpool:		
Reimers & Meyer—Africans ..	12,092	
APRIL 24.—By the <i>Pavonia</i> =Liverpool:		
Livesey & Co.—Africans ..	8,186	
APRIL 25.—By the <i>Sachem</i> =Liverpool:		
Reimers & Meyer—Africans ..	24,284	
APRIL 28.—By the <i>Sylvania</i> =Liverpool:		
Livesey & Co.—Africans ..	3,788	
Total for April ..	204,780	\$119,618
Total for March ..	89,170	51,945
Total for February ..	317,936	197,523
Total for January ..	247,345	14,7488

GUTTA PERCHA.

APRIL 7.—By the <i>Dalmatia</i> =Hamburg:	
Reimers & Meyer	11,819

NEW ORLEANS.

APRIL.

	POUNDS.	VALUE.
From Honduras	2,724	\$1,645
From Nicaragua	72,039	58,412
Total	74,763	\$58,057

APRIL EXPORTS OF INDIA-RUBBER FROM PARA.

[NOTE.—The figures denote weights in Kilograms.]

EXPORTERS.	UNITED STATES.					EUROPE.					GRAND TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Pusinelli, Prusse & Co.	23,314	2,695	86,501	15,741	128,251	264,311	47,353	50,909	12,900	375,473	503,724
La Roque da Costa & Co.	15,054	9,096	34,631	3,787	62,568	87,924	18,832	60,426	26,100	202,282	264,850
Adelbert H. Alden	121,890	12,410	39,850	4,320	178,470	28,560	2,890	14,200	22,500	68,150	246,620
Rudolf Zietz	16,430	3,039	4,813	—	24,282	74,801	11,530	28,342	1,322	115,985	140,267
Denis Crouan	—	—	3,664	19,227	22,891	16,642	2,621	13,320	—	32,583	55,474
R. Suarez	—	—	—	—	—	31,497	7,716	3,322	—	42,535	42,535
Velhote, Silva & Co.	—	—	—	—	—	15,080	1,980	5,616	—	22,676	22,676
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	9,647	4,898	3,784	368	18,697	18,697
The Sears Paré Rubber Co.	7,480	1,020	5,470	1,790	15,760	—	—	—	—	—	15,760
Kanthack & Co.	—	—	—	—	—	9,090	2,258	3,637	46	15,031	15,031
B. A. Antunes & Co.	—	—	—	5,280	5,280	—	—	7,382	—	7,382	12,662
H. A. Astlett	4,257	1,407	4,046	—	9,710	—	—	—	—	—	9,710
Pires, Teixeira & Co.	5,750	—	2,150	—	7,900	—	—	—	—	—	7,900
York Lajeunesse	—	—	—	—	—	1,120	320	1,470	—	2,910	2,910
Sundry small shippers	3,400	1,020	520	—	4,940	5,084	680	763	—	6,527	11,467
Direct from Iquitos	—	—	—	—	—	2,872	—	23,628	2,657	29,157	29,157
Direct from Manaus	134,272	26,140	69,381	57,240	287,033	205,892	55,813	112,181	133,152	597,038	884,071
Total for April	331,847	56,827	251,026	107,385	747,085	842,520	156,881	337,980	199,045	1,536,426	2,283,511
Total for March	1,469,373	187,546	551,569	241,217	2,449,705	450,345	67,032	184,300	337,854	1,039,531	3,479,236

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